U.S. Department of the Interior
Bureau of Land Management

Preliminary Environmental Assessment

DOI-BLM-NV-L030-2013-0001-EA

May 14, 2013

Grazing Permit Renewal
for
Authorization Numbers 2703863 and 2705132 on the
Lower Lake West Allotment (#11013)

Lincoln County, Nevada

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1.0 Introduction

This document identifies issues, analyzes alternatives, and discloses the potential environmental impacts associated with the proposed term grazing permit renewals for authorization numbers 2703863 and 2705132 on the Lower Lake West Allotment (#11013).

1.1 Background

The Lower Lake West Allotment, a land based allotment having two permittees, is located in southern Lincoln County, Nevada. It is approximately 60 miles southwest of Caliente, Nevada and approximately 8 miles south of Alamo, Nevada (Appendix I, Map #1). Cattle are the type of livestock grazed on the allotment.

Current management practices are a reflection of Best Management Practices (BMPs) as coordinated between the permittee and the appropriate Bureau of Land Management (BLM) Range Management Specialist.

Allotment General Location:

T.7 S., R.59 E., MDBM, many sections
T.7 S., R. 60 E., MDBM, many sections
T.7 S., R. 61 E., MDBM, many sections
T.8 S., R. 60 E., MDBM, many sections
T.8 S., R. 61 E., MDBM, many sections

1.2 Introduction of the Proposed Action.

The BLM, Caliente Field Office, proposes to renew the aforementioned term grazing permits on the Lower Lake West Allotment.

Standards and Guidelines for Grazing Administration were developed by the Mojave-Southern Great Basin Resource Advisory Council (RAC) and approved by the Secretary of the Interior on February 12, 1997. Changes to grazing management are recommended which would establish Best Management Practices (BMPs) within the allotment. Such BMPs would assist in achieving/maintaining these Standards.

The BLM collected and analyzed monitoring data, and conducted professional field observations, as part of the permit renewal process. This information was used to evaluate livestock grazing management and rangeland health within the Lower Lake West Allotment. Subsequently, an evaluation of rangeland health along with recommendations associated with grazing management practices, in the form of a Standards Determination Document (SDD), was completed in 2013 (Appendix II). A summary of the RAC Standards assessment is found in Table 1.2, below.

Table 1.2 Summary of Assessment of the Mojave-Southern Great Basin Area Standards for the Lower Lake West Allotment.

Standard	Status
1. Soils	Achieved
2. Riparian and Wetland Sites Standard	Upland portion – Achieved Riparian Portion – Not Applicable
3. Habitat and Biota Standard	Achieved

1.3 Need for the Proposed Action.

The need for the proposal is to authorize grazing use on public lands in a manner which satisfies the Federal Land Policy and Management Act (FLPMA) (1976) while being consistent with multiple use, sustained yield and the Nevada's Mojave-Southern Great Basin Area Standards for Rangeland Health; to manage livestock in accordance with all applicable laws, regulations, and policies; and, to renew the term grazing permits for authorization numbers 2703863 and 2705132 on the Lower Lake West Allotment (#11013) while introducing BMPs – along with specific (mandatory) terms and conditions – directed toward achieving and/or maintaining the applicable Standards and Guidelines for Grazing Administration.

1.3.1 Objectives for the Proposed Action.

- To renew the term grazing permits for authorization numbers 2703863 and 2705132; while authorizing grazing in accordance with applicable laws, regulations, and land use plans (LUPs) on approximately 48,500 acres of public land.

- To improve/maintain vegetative health and growth conditions on the allotment while either making progress toward or maintaining achievement of the Standards and Guidelines for rangeland health as approved and published by Mojave-Southern Great Basin RAC.

1.4 Relationship to Planning

The proposed action is in conformance with the Ely District Record of Decision and Approved Resource Management Plan (RMP) (August 2008), which states as a goal (p. 85): "Manage livestock grazing on public lands to provide for a level of livestock grazing consistent with multiple use, sustained yield, and watershed function and health." It further states as an objective (p. 86): "To allow livestock grazing to occur in a manner and at levels consistent with multiple use, sustained yield, and the standards for rangeland health."

Management Action LG-1 states, "Make approximately 11,246,900 acres and 545,267 animal unit months available for livestock grazing on a long-term basis."

Management Action LG-3 states, "Allow allotments or portions of allotments within desert tortoise habitat, but outside of Areas of Critical Environmental Concern (ACECs) to remain at current stocking levels unless a subsequent evaluation indicates a need to change the stocking level."

Management Action LG-5 states: "Maintain the current grazing preference, season-of-use, and kind of livestock until the allotments that have not been evaluated for meeting or making progress toward meeting the standards or are in conformance with the policies are evaluated. Depending on the results of the standards assessment, maintain or modify grazing preference, seasons-of-use, kind of livestock and grazing management practices to achieve the standards for rangeland health. Changes, such as improved livestock management, new range improvement projects, and changes in the amount and kinds of forage permanently available for livestock use, can lead to changes in preference, authorized season-of-use, or kind of livestock. Ensure changes continue to meet the RMP goals and objectives, including the standards for rangeland health."

Management Action LG-8 states, **"**Implement management actions for desert tortoise habitat contained in the 2008 Biological Opinion."

1.5 Relationship to Other Plans

The proposed action was analyzed within the scope of the *Revised Recovery Plan for the Mojave Population of the Desert Tortoise* (*Gopherus agassizii*) (2011) and found to be in compliance.

The proposed action is also consistent with the *Lincoln County Public Lands Policy Plan* (2010) which states (p. 38):

"Policy 4-4: Grazing should utilize sound adaptive management practices consistent with the BLM Mojave-Southern Great Basin Resource Advisory Council's Standards and Guidelines for Grazing Administration. Lincoln County supports the periodic updating of the Nevada Rangeland Monitoring Handbook to help establish proper levels of grazing. Lincoln County supports accountability between BLM and Lincoln County Commission to assure these management practices are carried out in a timely and professional manner.

Policy 4-5: Allotment management strategies should be developed that provide incentives to optimize stewardship by the permittee. Flexibility should be given to the permittee to reach condition standards for the range. Monitoring should utilize all science-based relevant studies, as described in the current Nevada Rangeland Monitoring Handbook. Changes to these standards should involve pre-planning collaborative consultation with the permittee and Lincoln County Commission."

1.6 Relationship to Acts, Executive Orders, Agreements and Guidance

The proposed action was analyzed within the scope of other relevant Acts, Executive Orders and associated regulations, Agreements and Guidance listed below and found to be in compliance:

- State Protocol Agreement between the BLM, Nevada and the Nevada State Historic Preservation Office (October 26, 2009)

- National Historic Preservation Act (1966) (Public Law 89-665; 16 U.S.C. 470 as amended through 2000)

- Archaeological Resources Protection Act (ARPA) (1979)

- Migratory Bird Treaty Act (1918 as amended)

- Executive Order 13186 (1/11/01): Responsibilities of Federal Agencies to Protect Migratory Birds (2001)

- The National Environmental Policy Act (1969) (42 U.S.C. §§ 4321-4347, January 1, 1970, as amended 1975 and 1994)

- The Federal Land Policy and Management Act (1976) (43 U.S.C. §§ 1701-1782, October 21, 1976, as amended 1978, 1984, 1986, 1988, 1990-1992, 1994 and 1996)

- Mojave-Southern Great Basin Resource Advisory Council (RAC) Standards and Guidelines (12 February 1997)

- Endangered Species Act (ESA) (1973)

1.7 Tiering

This document is tiered to the Ely Proposed Resource Management Plan/Final Environmental Impact Statement (Ely PRMP/FEIS, Volumes I and II) (November 2007).

1.8 Relevant Issues and Internal Scoping/Public Scoping.

On June 15, 2012, a letter was sent to local Native American tribes requesting comments regarding the permit renewal process for authorization numbers 2703863 and 2705132 on the Lower Lake West Allotment. No comments were received.

On April 2, 2013 a BLM internal meeting was held in coordination between the Caliente Field Office and the Ely BLM District Office. The term permit renewal proposal for authorization numbers 2703863 and 2705132 was presented and scoped by resource specialists to identify any relevant issues. Comments were provided by the staff wildlife biologist and archaeologist.

This Preliminary Environmental Assessment (EA), and associated SDD, will be submitted for posting for a public review and comment period on the following website: https://www.blm.gov/epl-front-office/eplanning/nepa/nepa_register.do.

A hard copy will also be mailed to those interested publics who have requested it, and who have expressed an interest in range management actions associated with the Lower Lake West

Allotment. The BLM used the interested public mailing list as updated through the date of mailing. Changes in the EA and SDD will be made based upon pertinent public input.

Before including addresses, phone numbers, email addresses or other personal identifying information in comments, you should be aware that the entire comment – including personal identifying information – may be made publicly available at any time. While you can ask us in your comment to withhold your personal identifying information from public review, we cannot guarantee that we will be able to do so.

2.0 Alternatives Including the Proposed Action

2.1 Proposed Action

The BLM, Caliente Field Office, proposes to renew the term grazing permit for authorization numbers 2703863 and 2705132 on the Lower Lake West Allotment (#11013).

Table 1 in Appendix B of the SDD (Appendix II of this EA) displays annual livestock grazing use, for authorization numbers 2703863 and 2705132, on the Lower Lake West Allotment from March 1, 2003 through February 28, 2013 (10 years). The table illustrates the AUMs licensed each year by each permittee; total AUMs licensed each year on the allotment for both permittees; and, total AUMs licensed each year on allotment as a percent of the total Active Use of both permittees. The table also displays the individual Total Active Use for both permittees, and the Season of Use on the allotment.

As the table illustrates, the licensed annual use on the allotment for all both permittees, during the ten year period, has frequently been below the combined Total Active AUMs. The total AUMs licensed each year on allotment as a percent of the total active use of both permittees, ranged from 18% in 2004 to 70% in 2006 with a 10-year average of approximately 36%.

As noted in table 1.2, the applicable Standards are being achieved.

Part of the Proposed Action is to maintain the current Active Use and Season of Use of both permittees, as stated in the current term grazing permits, with grazing authorizations being based on annual forage availability; and the terms and conditions included in the new term permits.

The Proposed Action would also include the establishment of eight new permanent watering locations, scattered throughout the allotment, in an effort to provide better cattle distribution especially in the eastern portion of the allotment where Agassiz's Desert Tortoise Habitat is found (Appendix I, Map #2). One of these watering locations would be located along the margin of desert tortoise habitat, as defined by the RMP, within the northeast portion of the allotment.

This part of the proposed action consists of placing two to three 500 gallon water troughs, with wildlife escape ramps (bird ladders), at each location. The troughs would be placed on ground surface immediately adjacent to existing roads, in previously disturbed areas, with no additional ground disturbance other than the footprint of the troughs. All activities associated with the

project would occur within the previously disturbed areas. No new soil disturbance would occur. Vehicles would not have to travel off-road to deliver water.

The final part of the proposed action consists of the construction of a small corral of approximately 30 feet x 70 feet in size. It would be used only for a few days per year, as a holding pen, to collect small numbers of livestock at a time in preparation for removal from the allotment. Three of the four sides of the corral would be constructed of removable metal panels. It would be constructed in an already very highly disturbed locality (devoid of vegetation), and immediately adjacent to an existing drift fence and road, so that the drift fence would comprise the fourth side (Appendix I, Map #2).

The proposed waterhauls and corral would be constructed under a Range Improvement Permit (Form 4120-7), with the benefitting permittee(s) being responsible for not only all materials, labor and subsequent maintenance, but also for compliance with Nevada state water laws regarding the proposed waterhauls. No hazardous materials would be associated with any aspects of any part of the proposed action regarding range improvements.

A representative from the BLM would make site visits, as deemed necessary, to monitor the project through completion. Upon completion of the project, a final inspection would be made to ensure compliance with specifications and to correct any existing deficiencies.

None of the permittees would be allowed to place salt closer than one-half mile from any water sources; and the installation of permanent wildlife escape ramps, supplied by the Bureau of Land Management, would be required in all watering troughs on the allotment.

Furthermore, under the discretion of the BLM, each permittee would be required to use multiple watering locations (existing and newly established) during any given grazing season. Also, under the discretion of the BLM, waterhauling locations would be used in a manner which would yield maximum livestock distribution within the allotment.

The Proposed Action would also add other terms and conditions (BMPs) to the permit that would aid in maintaining the Mojave-Southern Great Basin Standards. No other changes to any of the permits would be made.

2.1.1 Current Permits

Table 2.1.1, below, displays the mandatory terms and conditions for the current term grazing permits for authorization numbers 2703863 and 2705132 on the Lower Lake West Allotment. Both current term grazing permits have been issued for the period 3/01/03 – 2/28/2013 and authorized cattle grazing according to the following:

Table 2.1.1 Current Term Grazing Permits, Showing Mandatory Terms and Conditions, for Authorization Numbers 2703863 and 2705132 on the Lower lake West Allotment:

ALLOTMENT		Authorization Num.	LIVESTOCK		GRAZING PERIOD		** % Public Land	AUMs		
Name	Number		* Number	Kind	Begin	End		Active Use	Hist. Susp. Use	Permitted Use
Lower Lake West	11013	#2703863	54	cattle	3/1	2/28	100%	647	0	647
		#2705132	50	cattle	3/1	2/28	100%	600	0	600

* These numbers are approximate
** This is for billing purposes only.

2.1.2 Proposed Term Permits

The new term permits would contain the same mandatory terms and conditions as the current term permit.

The renewal of the term grazing permits would be for a period of up to 10 years. If the grazing privileges, associated with any of the permits, are transferred during this 10-year period – with no changes to the terms and conditions of the permit in question – the new term permit would be issued for the remainder of the 10-year period.

The new term permits would also include standard terms and conditions which further assist in maintaining the Standards and Guidelines for Grazing Administration in addition to other pertinent land use objectives for livestock use (Appendix III).

The following Terms and Conditions (BMPs) would also be added to the Term Grazing Permits to assist in maintaining the Standards:

1. Allowable Use Levels on current year's growth of upland vegetation (grasses, forbs and shrubs) within the Lower Lake West Allotment - during the authorized grazing use period (3/1-2/28) - will not exceed 40%.

2. Watering locations will be rotated, so that those used during one grazing season will not be used during the next.

3. Under the discretion of the BLM, waterhauling locations will be used in a manner which will yield maximum livestock distribution within the allotment. Herding will be used, as needed, to achieve this objective.

4. Waterhauling will be limited to existing roads. No roads will be bladed or improved in any way, with mechanical equipment, without the expressed consent of the authorized officer.

In addition, the new term permits would also include standard terms and conditions which would assist in maintaining the Standards and Guidelines for Grazing Administration in addition to other pertinent land use objectives for livestock use (Appendix III).

Finally, the following terms and conditions, from the *Programmatic Biological Opinion for the Bureau of Land Management's Ely District Resource Management Plan* (File No. 84320-2008-F-0078) (pp. 132-133), would be included in the term grazing permits to minimize incidental take of desert tortoises that may result from the implementation of programs in general:

5. Prior to initiation of an activity within desert tortoise habitat, a desert tortoise awareness program shall be presented to all personnel who will be onsite, including but not limited to contractors, contractors' employees, supervisors, inspectors, and subcontractors. This program will contain information concerning the biology and distribution of the desert tortoise and other sensitive species, their legal status and occurrence in the project area; the definition of "take" and associated penalties; speed limits; the terms and conditions of this biological opinion including speed limits; the means by which employees can help facilitate this process; responsibilities of workers, monitors, biologists, etc.; and reporting procedures to be implemented in case of desert tortoise encounters or noncompliance with this biological opinion.

6. Tortoises discovered to be in imminent danger during projects or activities covered under this biological opinion, may be moved out of harm's way.

7. Desert tortoises shall be treated in a manner to ensure they do not overheat, exhibit signs of overheating (e.g., gaping, foaming at the mouth, etc.), or are placed in a situation where they cannot maintain surface and core temperatures necessary to their well-being. Desert tortoises will be kept shaded at all times until it is safe to release them. No desert tortoise will be captured, moved, transported, released, or purposefully caused to leave its burrow for whatever reason when the ambient air temperature is above 95ºF. Ambient air temperature will be measured in the shade, protected from wind, at a height of two inches above the ground surface. No desert tortoise will be captured if the ambient air temperature is anticipated to exceed 95ºF before handling and relocation can be completed. If the ambient air temperature exceeds 95ºF during handling or processing, desert tortoises will be kept shaded in an environment that does not exceed 95ºF and the animals will not be released until ambient air temperature declines to below 95ºF.

8. Desert tortoises shall be handled by qualified individuals. For most projects, an authorized desert tortoise biologist will be onsite during project activities within desert tortoise habitat. Biologists, monitors, or anyone responsible for conducting monitoring or desert tortoise field activities associated with the project will complete the Qualifications Form (Appendix D) and submit it to the Service for review and approval as appropriate. The Service should be allowed 30 days for review and response.

9. A litter-control program shall be implemented to minimize predation on tortoises by ravens drawn to the project site. This program will include the use of covered, raven-proof trash receptacles, removal of trash from project areas to the trash receptacles

following the close of each work day, and the proper disposal of trash in a designated solid waste disposal facility. Appropriate precautions must be taken to prevent litter from blowing out along the road when trash is removed from the site. The litter-control program will apply to all actions. A litter-control program will be implemented by the responsible federal agency or their contractor, to minimize predation on tortoises by ravens and other predators drawn to the project site.

The following terms and conditions, also from the *Programmatic Biological Opinion* (pp. 138-140), would be included in the term grazing permits to minimize incidental take of desert tortoises that may result from permitting livestock grazing:

10. Livestock use may occur from March 1 to October 31, as long as forage utilization management levels are monitored and do not exceed 40 percent on key perennial grasses, shrubs and perennial forbs; and between November 1 and February 28/29, provided forage utilization management levels are monitored and do not exceed 50 percent on key perennial grasses and 45 percent on key shrubs and perennial forbs. If the utilization management levels are reached, livestock will be moved to another location within the allotment or taken entirely off the allotment. No livestock grazing will occur in desert tortoise critical habitat March 1 through October 31.

11. Livestock grazing in desert tortoise habitat shall be managed in accordance with the most current version of the Desert Tortoise Recovery Plan, including allotments or portions of allotments that become vacant and occur within desert tortoise critical habitat outside of ACECs. Grazing may continue in currently active allotments until such time they become vacant. BLM will work with the permittees of active allotments to implement changes in grazing management to improve desert tortoise habitat which may include use of water, salt and mineral licks, or herding to move livestock; changes in season of use and/or stocking rates; installation of exclusionary fences; reconfiguring pasture or allotment boundaries; and retiring pastures or allotments.

12. When BLM proposes to issue a term permit or other type of grazing authorization, BLM shall provide the following to the Service with their request to append the action to this biological opinion:

    - An allotment-level assessment of current conditions (relative to listed species habitat); if unknown, a description of, and timeframe for actions BLM will implement to collect such information;
    - a plan and schedule for monitoring listed species habitat on the allotment;
    - a description of the grazing system and how it will minimize conflicts with listed species habitat;
    - proposed actions or remedies (e.g., reduce utilization levels, reduce AUMs, limit season-of-use) if listed species habitat has not attained the goals for the allotment; and
    - other information requested by the Service that is necessary to conclude activity-level consultation.

13. BLM and Service will cooperatively develop livestock grazing utilization levels or other thresholds, as appropriate for each of the listed species. These levels or thresholds shall be incorporated into each of the allotment term permit for those allotments that overlap with habitat for the listed species.

14. The permittee shall be required to take immediate action to remove any livestock that move into areas unavailable for grazing. If straying of livestock becomes problematic, BLM, in consultation with the Service, will take measures to ensure straying is prevented.

15. All vehicle use in listed species habitat associated with livestock grazing, with the exception of range improvements, shall be restricted to existing roads and trails. Permittees and associated workers will comply with posted speed limits on access roads. No new access roads will be created.

16. Use of hay or grains as a feeding supplement shall be prohibited within grazing allotments. Where mineral and salt blocks are deemed necessary for livestock grazing management they will be placed in previously disturbed areas at least one half mile from riparian areas wherever possible to minimize impacts to flycatchers and listed fishes and their habitat. In some cases, blocks may be placed in areas that have a net benefit to tortoise by distributing livestock more evenly throughout the allotment, and minimizing concentrations of livestock that result in habitat damage. Waterhaul sites will also be placed at least one half mile from riparian areas.

17. Site visits shall be made to active allotments by BLM rangeland specialists and other qualified personnel, including Service biologists, to ensure compliance with the terms and conditions of the grazing permit. Any item in non-compliance will be rectified by BLM and permittee, and reported to the Service.

18. Livestock levels shall be adjusted to reflect significant, unusual conditions that result in a dramatic change in range conditions (e.g., drought and fire) and negatively impact the ability of the allotment to support both listed species and cattle.

In relation to grazing, there would be no additional terms and conditions needed for management practices to conform to guidelines to either make progress toward or to maintain achievement of the Standards for Rangeland Health.

2.1.3 Invasive, Non-Native Species and Noxious Weeds

A Weed Risk Assessment was completed for this project (Appendix IV). According to recent weed surveys (2009), no noxious weeds are known to be found within the boundaries Lower Lake West Allotment. However, while not officially documented, the following non-native invasive weeds occur within or vicinal to the allotment: cheatgrass (*Bromus tectorum*) and Russian thistle (*Salsola kali*).

The measures listed in the Weed Risk Assessment will be followed, when grazing occurs on the allotment, to minimize the potential spread of weeds.

2.1.4 Monitoring

The Ely District Approved Resource Management Plan (August 2008) identifies monitoring to include (p. 88): "Monitoring to assess rangeland health standards will include records of actual livestock use, measurements of forage utilization, ecological site inventory data, cover data, soil mapping, and allotment evaluations or rangeland health assessments. Conditions and trends of resources affected by livestock grazing will be monitored to support periodic analysis/evaluation, site-specific adjustments of livestock management actions, and term permit renewals."

Under guidance of the Endangered Species Act and through Section 7 consultation with the U.S. Fish and Wildlife Service, a species specific monitoring plan will be developed to monitor desert tortoise habitat.

2.2 Description of Alternatives Analyzed in Detail

2.2.1 No Action Alternative

The No Action Alternative, for livestock grazing, permit renewals is defined as "continuing to graze under current terms and conditions" in IM-2000-022, Change 1 (re-authorized by IM-2010-063)

Therefore, the No Action Alternative would reflect the status quo. The term permits would be issued without changes to grazing management, or modifications to the existing terms and conditions of the permit.

The renewal of the term grazing permits would be for a period of up to 10 years. If the grazing privileges, associated with any of the permits, are transferred during this 10-year period – with no changes to the terms and conditions of the permit in question – the new term permit would be issued for the remainder of the 10-year period.

2.2.2 No Grazing Alternative

Under this alternative a new term grazing permit would not be issued, once the current term permit expired, resulting in no authorized livestock grazing on the allotment.

This alternative was also considered and analyzed in the Ely Proposed Resource Management Plan/Final Environmental Impact Statement (November, 2007) which is addressed below.

2.3 Alternatives Considered but Eliminated from Further Analysis

The Ely PRMP/FEIS (Volume II) analyzed the Environmental Impacts of livestock grazing under the Proposed RMP section, along with four alternatives (p.4.16-1 to 4.16-15.), which included a no-grazing alternative (Alternative D). It also analyzed environmental impacts on vegetative resources from livestock grazing under the Proposed RMP section, and the four alternatives (4.5-1 to 4.5-28), which included the no-grazing alternative. No further analysis is

necessary in this document for Alternatives A, B and C. However, the no-grazing alternative is additionally analyzed in this EA. The following is a list of the four Alternatives contained within the PRMP/FEIS (Volume II):

- Alternative A, The Continuation of Current Existing (No Action alternative)
- Alternative B, the maintenance and restoration of healthy ecological systems
- Alternative C, commodity production
- Alternative D, conservation alternative (no-grazing alternative)

3.0 Description of the Affected Environment and Associated Environmental Consequences

3.1 Allotment Information

The Lower Lake West Allotment, a land based allotment having two permittees, is located in central Lincoln County, Nevada. It is approximately 60 miles southwest of Caliente, Nevada and approximately 20 miles south of Hiko, Nevada (Appendix I, Map #1). It is located within the White River South Watershed (#160C), and is approximately 48,500 acres in size. Cattle are the type of livestock grazed on the allotment. Elevations range from approximately 7,000 feet near the north boundary of the allotment to approximately 3,500 feet near the east boundary.

Neither the allotment nor any of its portions are located within a Wild Horse Herd Management Area (HMA), wilderness or wilderness study area.

The east portion of the Lower Lake West Allotment contains habitat for the federally threatened Agassiz's desert tortoise (*Gopherus agassizii*) (Appendix I, Map #2). Desert tortoise critical habitat and desert tortoise Areas of Critical Environmental Concern (ACEC) do not exist within the allotment. The central and west portions of the allotment also contain desert bighorn sheep (*Ovis canadensis nelsoni*) habitat.

There are no known riparian areas located within the allotment on BLM managed lands.

There are two existing permanent livestock watering locations on the allotment, to which the permittees haul water. Consequently, this constitutes the sole means by which water is supplied in the allotment. The permittee has proposed eight additional waterhaul locations within the allotment, to attain better livestock distribution, which will yield a total of ten waterhauling locations (Appendix I, Map #2).

The Shooting Gallery ACEC occurs in the northwest portion of the allotment.

3.2 Resources/Concerns Considered for Analysis - Proposed Action

The following items have been evaluated for the potential for significant impacts to occur, either directly, indirectly, or cumulatively, due to implementation of the proposed action.

Consideration of some of these items is to ensure compliance with laws, statutes or Executive Orders that impose certain requirements upon all Federal actions. Other items are relevant to the management of public lands in general and to the Ely BLM in particular.

Resource/Concern Considered	Issue(s) Analyzed	Rationale for Dismissal from Analysis or Issue(s) Requiring Detailed Analysis
Air Quality	No	Air quality in Lincoln County is classified by the State of Nevada as being "unclassifiable" since no monitoring has been conducted to determine the classification and National Ambient Air Quality Standards; violations would not otherwise be expected in the county. The proposed action would not have a measurable affect the air quality of Lincoln County. Any dust created would be expected to be ephemeral.
Cultural Resources	No	Impacts from livestock grazing on Cultural Resources are analyzed on page 4.9-5 of the Ely Proposed Resource Management Plan/Environmental Impact Statement (November 2007). According to the Ely District Approved Resource Management Plan (August 2008) (RMP) (p. 49): it is the goal of the Ely District to, "identify, preserve, and protect significant cultural resources and ensure that they are available for appropriate uses by present and future generations (Federal Land Policy and Management Act; National Historic Preservation Act; Archaeological Resources Protection Act." They are to protect and maintain these cultural resources on BLM-administered land in stable condition. To accomplish this they are to seek to reduce imminent threats and resolve potential conflicts from natural or human-caused deterioration or potential conflict with other resource uses by ensuring that all authorizations for land use and resource use will comply with the National Historic Preservation Act, Section 106. In accordance with this act, "any material remains of past human life or activities which are of archaeological interest" shall be assessed and secured "for the present and future benefits of the American People." Therefore, all ground disturbing activities related to livestock grazing (such as fence construction, road construction, water developments, etc.) within the allotment(s) associated with these Term Permit(s) will be subject to Section 106 review and, if needed, SHPO consultation as per BLM Nevada's implementation of the Protocol for cultural resources. Livestock grazing has been an historic use of federal lands, now managed by the Caliente Field Office, since the mid-19th century. The extent of effects from livestock grazing on archeological sites is difficult to determine, since extensive livestock grazing has occurred in this region for over 150 years. Though, it is likely that the majority of the livestock-related impacts on cultural resources occurred prior to the passage of the Taylor Grazing Act in 1934. The BLM conducts field investigations and maintains files of archeological sites on public lands. Analyses of existing documentation indicates that concentrated livestock activities near water sources, along fences, and in areas where livestock seek shelter, could adversely affect cultural resources. The cultural staff will identify cultural properties being impacted by grazing

Resource/Concern Considered	Issue(s) Analyzed	Rationale for Dismissal from Analysis or Issue(s) Requiring Detailed Analysis
		activities to be monitored in order to determine condition, impacts, deterioration, and use of these properties. Site monitoring is conducted by BLM archeologists, law enforcement rangers, and trained site stewards, to identify impacts and evaluate site conditions. As necessary, strategies are developed and implemented in order to reduce threats and resolve conflicts to the property.
Paleontological Resources	No	No currently identified paleontological resources are present in the project area.
Native American Religious Concerns and other concerns	No	Letters notifying Native American Tribes of proposed term grazing permit renewals scheduled for 2013 were sent out on June 15, 2012 for a 30 day comment period. The Lower Lake West Allotment was included in the notification. No concerns were identified. Direct impacts and cumulative impacts would not occur, because there were no identified concerns through coordination.
Noxious and Invasive Weed Management	No	Livestock grazing has the potential to spread noxious and invasive weeds. A Weed Risk Assessment was completed for this project (Appendix IV). The design features of the proposed action, in addition to the vigilant practices described in the Noxious Weed Risk Assessment, will help prevent livestock grazing from spreading noxious and non-native, invasive weeds. No additional analysis is needed.
Vegetative Resources	Yes	Impacts from livestock grazing on Vegetation Resources were analyzed on page 4.5-9 in the Ely Proposed Resource Management Plan/Environmental Impact Statement (November 2007). Beneficial impacts to vegetative resources are consistent with the need and objectives for the proposed action. This resource has been further analyzed in the EA.
Rangeland Standards and Health	Yes	Impacts from livestock grazing on Rangeland Standards and Health are analyzed on pages 4.16-3 through 4.16-4 of the Ely Proposed Resource Management Plan/Environmental Impact Statement (November 2007). Beneficial impacts to rangeland standards and health are consistent with the need and objectives for the proposed action. Analysis of the proposed action and alternatives is provided in the affected environment and environmental impacts sections of this EA.
Grazing Uses	Yes	Wildlife species that likely occur in or near the project area are listed in Appendix V. Livestock grazing is analyzed in this EA.
Forest Health[1]	No	Pinyon-juniper woodlands are found within the extreme northwest portion of the allotment. This area lacks water and appreciable forage; and is characterized by steep, rugged terrain which is unattractive to livestock. The impact of grazing in the woodlands is cumulatively negligible.
Wastes, Hazardous or Solid	No	No hazardous or solid wastes exist on the permit renewal area, nor would any

Resource/Concern Considered	Issue(s) Analyzed	Rationale for Dismissal from Analysis or Issue(s) Requiring Detailed Analysis
		be introduced by the proposed action or alternatives.
Wilderness	No	Neither the allotment nor any of its portions are located within a wilderness or wilderness study area.
Lands with Wilderness Characteristics	No	Four units inventoried in 1979 for LWC overlap this allotment. Three of the units were designated as WSAs. These were released from wilderness consideration in the 2004 Lincoln County Conservation Recreation & Development Act. No inventory update has occurred for this allotment. The Proposed Action and the No Action Alternative would not preclude preservation of Lands with Wilderness Characteristics should LWC be identified in the future. There are no anticipated impacts to Size, Solitude or Primitive forms of Recreation from the proposed action or no action alternatives.
Wetlands/Riparian Zones	No	No riparian areas occur on public land in the analysis area.
Water Quality, Drinking/Ground	No	The Ely Proposed Resource Management Plan/Final Environmental Impact Statement (November 2007) disclosed effects to Water Resources from livestock grazing on page 4.3-5. The proposed action would not affect water quality (surface or groundwater sources) or drinking water in the project area. No surface water in the project area is used as human drinking water sources and no impaired water bodies of the State on Nevada are present in the project area.
Water Resources (Water Rights)	No	The Proposed Action would not affect existing or pending water rights vicinal to or within the project analysis area.
Floodplains	No	The project analysis area is not included on FEMA flood maps. The resource does not exist in the proposed project area on BLM managed lands.
Migratory Birds	No	The migratory bird species that occur in or near the project area are listed in Appendix V. This list includes BLM Sensitive species. There is always a possibility that the nests, and/or developing young, of ground nesting birds during the spring nesting period could be trampled by cattle or horses. However, the potential for nest trampling is anticipated to be remote and upon occurrence, would be limited to an occasional individual or nest. If nests were lost due to trampling, birds would likely re-nest. Grazing would also reduce the height of existing vegetative structure and cover to some degree. However, with the establishment Allowable Use Levels it is anticipated that vegetative structure and cover would be negligibly affected. In view of the aforementioned, it is anticipated that negative impacts to migratory bird populations, as a whole, would be negligible.

Resource/Concern Considered	Issue(s) Analyzed	Rationale for Dismissal from Analysis or Issue(s) Requiring Detailed Analysis
U.S. Fish and Wildlife Service (USFWS) Listed or proposed for listing Threatened or Endangered Species or critical habitat.*	Yes	Wildlife species (plant and animal) that occur in or near the project area are listed in Appendix V. The Lower Lake West Allotment contains habitat for the federally threatened Agassiz's desert tortoise (*Gopherus agassizii*) (Appendix I, Map #2). Formal section 7 consultation for this species is being pursued. The aforementioned species are analyzed in detail in this EA.
Special Status Plant Species, other than those listed or proposed by the USFWS as Threatened or Endangered	No	No BLM sensitive plant species are known to occur on the Lower Lake West Allotment.
Special Status Animal Species, other than those listed or proposed by the UFWS as Threatened or Endangered	Yes	No preliminary priority habitat or preliminary general habitat for greater sage-grouse occurs within the Lower Lake West Allotment. Wildlife species that occur in or near the project area are listed in Appendix V. The allotment potentially contains the following BLM sensitive species: golden eagle (*Aquila chrysaetos*; bald eagle (*Haliaeetus leucocephalus*); peregrine falcon (*Falco peregrinus*); and, loggerhead shrike (*Lanius ludovicianus*). desert bighorn sheep (*Ovis canadensis nelsoni*); northern leopard frog (*Rana pipiens*); and, chuckwalla (*Sauromalus ater*). The aforementioned species are analyzed in detail in this EA.
Fish and Wildlife	No	There are no known riparian areas located within the allotment on BLM managed lands. Wildlife species that occur in or near the project area are listed in Appendix V. Impacts from livestock grazing on Fish and Wildlife are analyzed on pages 4.6-10 through 4.6-11 in the Ely Proposed Resource Management Plan/Final Environmental Impact Statement (November 2007). Grazing would reduce the amount of available forage (grass and forbs); however, compliance with Ely Resource Management Plan standards for utilization percentages ensures that forage is present in the allotment after cattle are removed. The allotment contains general habitat for mule deer (*Odocoileus hemionus*), small mammals, and reptiles. No population level impacts are anticipated to

Resource/Concern Considered	Issue(s) Analyzed	Rationale for Dismissal from Analysis or Issue(s) Requiring Detailed Analysis
		these species. Therefore, it is anticipated that the proposed action would have no measurable effect on this resource.
Wild Horses	No	Neither the allotment nor any of its portions are located within a Wild Horse Herd Management Area (HMA).
Soil Resources	No	The Ely Proposed resource Management Plan/Final Environmental Impact Statement (November 2007) disclosed effects to Soil Resources resulting from livestock grazing actions on page 4.4-4. Soils in the project analysis area are not prone to compaction or erosion problems; infiltration rates and soil permeability are high and soil textures are coarse throughout the area It is expected that the proposed action would not measurably affect soil resources.
Mineral Resources	No	There would be no modifications to mineral resources through the proposed action or alternatives; therefore, no direct or cumulative impacts would occur to minerals.
VRM	No	The proposed action is consistent with the VRM classification objectives for VRM classes 2 and 3 within the allotment; therefore, no direct or cumulative impacts to visual resources would occur. Class 2 occurs in the central and northwest quadrants of the allotment. Class 3 is found in the remainder of the allotment. Livestock graze within both classes.
Recreation Uses	No	Design features identified in the proposed action would result in negligible impacts to recreational activities
Land Uses	No	There would be no modifications to land use authorizations through the proposed action, therefore no impacts would occur. No direct or cumulative impacts would occur to access and land use.
Environmental Justice	No	No environmental justice issues are present at or near the project area. No minority or low income populations would be unduly affected by the proposed action or alternatives.
Areas of Critical Environmental Concern (ACEC)		The Shooting Gallery ACEC occurs in the northwest portion of the allotment.
Farmlands (Prime or Unique)	No	No prime farmland exists within the allotment.

[1] Healthy Forests Restoration Act projects only

* Consultation required, unless a "not present" or "no effect" finding is made.

An analysis of grazing impacts on the following resources – noted in the above table as being negligibly affected – may be found in the Ely Proposed Resource Management Plan/Final Environmental Impact Statement (November 2007) on the noted pages: Cultural Resources (page 4.9-5); Water Quality, Drinking/Ground (page 4.3-5); Fish and Wildlife (pages 4.6-10 through 4.6-11); and Soil Resources (page 4.4-4). Consequently, these resources do not require a further detailed analysis.

3.3 Resources/Concerns Analyzed

The following resources were assigned a "Yes" under the "Issue(s) Analyzed" column in the above table and have been identified by the BLM interdisciplinary team as resources within the affected environment that merit a detailed analysis: Vegetative Resources; Rangeland Standards and Health; Grazing Uses; USFWS Listed or proposed for listing Threatened or Endangered Species or critical habitat**;** and Special Status Animal Species other than those listed or proposed by the USFWS as Threatened or Endangered. An analysis of grazing impacts on these resources may also be found in the Ely Proposed Resource Management Plan/Final Environmental Impact Statement (November 2007), on the following noted pages: Vegetative Resources (page 4.5-9); Rangeland Standards and Health (pages 4.16-3 through 4.16-4); Special Status Species, including Threatened and Endangered Species (pages 4.7-28 through 4.7-33).

3.3.1 Vegetative Resources; Rangeland Standards and Health; Grazing Uses

3.3.1.1 Affected Environment

Sections 1.1, 2.1, and 3.1 describe and/or reference basic information about the Lower Lake West Allotment.

As described under section 1.2, an evaluation of livestock grazing management and rangeland health within the allotment (achievement of the standards and conformance to the guidelines) in the form of a Standards Determination Document was completed in conjunction with the permit renewal process (Appendix II).

The assessment indicated that Standards 1 and 3, and the upland portion of Standard 2 are being achieved. The riparian portion of Standard 2 is not applicable. Therefore, changing the mandatory terms and conditions of the current term grazing permit was deemed not necessary.

3.3.1.2 Environmental Consequences

<u>Proposed Action</u>

The introduction of eight new waterhaul locations within the allotment, in combination with existing waterhauls in the area, would provide an additional means of controlling livestock; especially with respect to the potential to relieve grazing pressure in the areas serviced by the two existing waters.

Additionally, under the discretion of the BLM the strategic use of multiple watering locations during the grazing season, by each permittee, should maintain livestock distribution to achieve a uniform utilization level within the allotment. When coupled with the introduction of allowable use levels, it would aid in preventing overall negative impacts to the soil and plant resource accordingly.

As a result, it would promote the potential for plants: to develop above ground biomass to protect soils and provide desirable perennial cover for wildlife; to contribute to litter cover; and to continue to develop root masses which would lend itself to improved carbohydrate storage for vigor and reproduction.

Consequently, the following would be promoted: the potential benefits to plant physiology, added soil protection and wildlife cover; the plant quality and volume of existing forage species; and the reduction in the potential for loss of desired plant species. As a result, this would influence the desired forage base in a positive manner.

In summary, creating a more uniform utilization level within allotments should result in the promotion of overall forage production, ground cover, plant vigor and overall range condition. In addition, the potential for unacceptable utilization levels would he reduced while providing benefits to wildlife, regarding not only forage and cover, but additional water availability during the livestock grazing season.

A concentrated influence on vegetation, vicinal to water troughs, is expected due to typical ungulate behavior associated with point water sources. Typically, there is an area immediately surrounding the troughs where soil and vegetation is the most affected as a result of cattle trampling and grazing while drinking. Varying degrees of grazing use/trampling subsequently occurs, in a radial pattern, with such affects decreasing as distance from the watering source increases. However, with the establishment of eight new waterhauls, logic dictates that the overall degree of such impacts should further decline, because of additional water sources servicing the same number of previously grazed livestock.

The impacts of the construction of a small removable corral, regarding trampling, would be very similar to the impacts for point water sources as described in the above paragraph. However, because the objective of the permittees is to directly herd the livestock to the corral in preparation for removal from the allotment, grazing impacts on the vegetational resource outside the corral would be minimal. In addition, because the small removable corral would be located adjacent to an existing fence and road; used only for a few days per year to remove small numbers of livestock, at a time, from the allotment; and, would be placed in an already very highly disturbed locality, the overall impacts should be of a very small degree.

The installation and maintenance of bird ladders would allow a means of escape for wildlife.

Standards 1, 3, and the upland portion of Standard 2 should continue to be achieved while overall grazing impacts to the environment should decrease.

The Proposed Action would also add other terms and conditions (BMPs) to the permit that would further aid in maintaining the Mojave-Southern Great Basin Standards.

No Action Alternative

All of the mandatory terms and conditions of the current permits, as displayed under section 2.1.1, would remain unchanged.

Under the no action alternative, the standard terms and conditions referenced under 2.1.2 under the Proposed Action and in Appendix III of this EA - which further assist in maintaining the Standards and Guidelines for Grazing Administration in addition to other pertinent land use objectives for livestock use - would not be included in the new permits.

The BMPs listed under 2.1.2, intended to assist in maintaining the Standards, would not be included in the new permits. Consequently, the setting of allowable use limits; the rotation of watering locations directed at allowing periodic rest for areas serviced by each watering location; the strategic use of watering locations, and requirement of herding as needed, directed at yielding maximum livestock distribution; and the restriction of waterhauling to existing roads would not become integrated into the permits.

Consequently, the benefits to plant physiology and added soil protection, and wildlife cover – as described under 2.1 of the Proposed Action – would be dramatically reduced; and, the plant quality and volume of existing forage species could decrease, thereby, impacting the desired forage base in a negative manner. This would have overall negative impacts on vegetative resources and the health of the land.

In addition, all other terms and conditions referenced under 2.1.2 – intended to minimize incidental take of the desert tortoise – would not be included in the new permits. This could have negative impacts on a currently listed species.

No Grazing Alternative

For a short period of time following implementation, no grazing may accomplish the same desired result as allowing periodic rest during the spring critical growing period for plants by allowing perennial forage plants rest during the vital phonological stages of their annual growing cycle. However, studies indicate that this benefit would begin to decrease as plants accumulate previous years' herbage. Thus, the benefit may become relatively short-lived without outside influences, and may lead to wolfy plants. Among bunchgrasses, wolfy plants are clumps that have accumulations of both current and previous years' herbage (Ganskopp and Bohnert 2004).

In fact, it is realized in the scientific community that, over time and without outside influences such as fire, grasses may become wolfy from lack of grazing use. Ganskopp et al. (1992, 1993) cites where research at the Eastern Oregon Agricultural Research Center demonstrated that cattle are aware of even one cured stem in clumps of green grass, and that they are about 40 percent less likely to forage on a wolfy plant than on one that does not have cured stems. They also state

that many have reported preferential use by both wild and domestic animals of individual plants or patches of grass where old growth material has been removed by grazing or fire.

If this occurs, substantial forage can become wasted, because current year's growth is intermixed with older, cured materials that are nutritionally deficient and present a physical barrier to cattle grazing (Ganskopp and Bohnert 2004). Such plants would also lose vigor and become less palatable, thereby contributing to less productive rangelands for either wildlife or domestic livestock that depend on such a forage base.

Anderson (1993) elaborated on the consequences of choosing a No Grazing option. He states: "After a period of time, ungrazed herbaceous fibrous-rooted plant species become decadent or stagnant. Annual above-ground growth is markedly reduced in volume and height. Root systems likely respond the same. The result is reduction in essential features of vegetational cover, including the replacement of soil organic matter and surface residues, and optimum capture of precipitation." He also lists two other consequences: "(1) loss of quality herbaceous forage for wild herbivores, causing them to move to areas where regrowth following livestock grazing provides succulent forage (Anderson 1989), and (2) increased hazard from wildfires that can be devastating from a rangeland watershed standpoint."

Courtois et al. (2004) found that 65 years of protection from grazing on 16 exclosures, at different locations across Nevada, resulted in relatively few differences between vegetation inside the exclosures and that exposed to moderate grazing outside the exclosures. Where differences occurred, total vegetation cover was greater inside the exclosures while density was greater outside the exclosures. Protection from grazing failed to prevent expansion of cheatgrass into the exclosures (Ely PRMP/FEIS pg. 4.5–27).

3.3.2 USFWS Listed or proposed for listing Threatened or Endangered Species or critical habitat

3.3.2.1 Affected Environment

The Lower Lake West Allotment contains habitat for the federally threatened Agassiz's desert tortoise (*Gopherus agassizii*). The allotment does not contain desert tortoise critical habitat or ACECs.

3.3.2.2 Environmental Consequences

<u>Proposed Action</u>

The Revised Recovery Plan for the Mojave Population of the Desert Tortoise (2011), states under Recovery Action 2.16 (minimize impacts to tortoises from livestock grazing): "Grazing by livestock (cattle and sheep) affects desert tortoises through crushing animals or their burrows, destroying or altering vegetation (which may introduce weeds and change the fire regime), altering soil, and competition for food (Boarman 2002). There is currently no evidence that cattle grazing will restore habitat or prevent fire in Mojave Desert environments."

The Revised Recovery Plan goes on to recommend: "The [U.S. Fish and Wildlife] Service should work to assist grazing managers to develop experimental application of more flexible grazing practices, such as allowing or reducing grazing during specific times of the year (*e.g.*, after ephemeral forage is gone or winter only) or under certain environmental conditions (*e.g.*, following a specified minimum amount of winter rain), in order to investigate the compatibility of grazing with desert tortoise populations." The Revised Recovery Plan identifies outside of desert tortoise conservation areas as the most appropriate areas to collect data on these sorts of experimental applications.

Some management actions recommended in the Revised Recovery Plan are incorporated into the proposed action for the Lower Lake West allotment, such as: removing trespass cattle, monitoring, and prohibiting supplemental feeding.

The introduction of seven new waterhaul locations, outside of desert tortoise habitat, on the allotment has the potential to relieve grazing pressure within desert tortoise habitat by displacing livestock to the areas serviced by the waters. Additionally, the strategic use of multiple watering locations during the grazing season by each permittee should improve livestock distribution to achieve a more uniform utilization level within the allotment. This would potentially further decrease overall impacts to the soil and plant resources, including desert tortoise habitat.

In Boarman's *Threats to Desert Tortoise Populations: A Critical Review of the Literature* (2002), he summarizes livestock grazing as a threat to desert tortoise in the following way: "Surprisingly little information is available on the effects of grazing on the Mojave Desert ecosystem (Oldemeyer 1994, Rundel and Gibson 1996, Lovich and Bainbridge 1999). Differences in rainfall patterns, nutrient cycling, and foraging behavior of herbivores and how these three factors interact make applications of research from other areas of limited value in understanding the range ecology of the Mojave Desert. The paucity of information is surprising given the controversy surrounding grazing in the Mojave and the importance of scientific information for making resource management decisions affecting grazing. Studies, mostly from other arid and semi-arid regions tells us that grazing can alter community structure, compact soil, disturb cryptogamic soils, increase fugitive dust and erosion. Some impacts to tortoises or their habitat have been demonstrated, but the evidence is not overwhelming."

On April 23, 2013, the BLM sent a memorandum to the U.S. Fish and Wildlife Service requesting Section 7 consultation, regarding the proposed action, for the federally threatened Agassiz's desert tortoise (*Gopherus agassizii*).

<u>No Action Alternative</u>

Because the authorization of seven new waterhaul locations outside of desert tortoise habitat would not occur, grazing would not be as well distributed in this allotment. This could have a negative impact on the plant resource that could otherwise serve as thermal cover or forage species for the desert tortoise.

Also, under the no action alternative, the terms and conditions listed under 2.1.2 in the Proposed Action would not be included in the new permit. Several of these terms and conditions that would otherwise benefit desert tortoise and associated habitat would not be implemented.

No Grazing Alternative

Not grazing the allotment could be beneficial to desert tortoise by eliminating a perceived threat of grazing in desert tortoise habitat. Grazing is one of the few threats to desert tortoise that can be managed.

However, the absence of grazing could lead to greater fuel loading. If this fuel loading resulted in wildfires, then the absence of grazing could be detrimental. The Revised Recovery Plan states: "There is currently no evidence that cattle grazing will restore habitat or prevent fire in Mojave Desert environments." Further study would be needed to determine the long-term consequences of not grazing this area and how the absence of grazing impacts desert tortoise.

3.3.3 Special Status Animal Species other than those listed or proposed by the USFWS as Threatened or Endangered

3.3.3.1 Affected Environment

The allotment contains the following BLM sensitive species: desert bighorn sheep (*Ovis canadensis nelsoni*); Northern leopard frog (*Rana pipiens*); golden eagle (*Aquila chrysaetos*); bald eagle (*Haliaeetus leucocephalus*); peregrine falcon (*Falco peregrinus*); loggerhead shrike (*Lanius ludovicianus*); and chuckwalla (*Sauromalus ater*).

Northern leopard frogs utilize riparian and wetland habitats. However, there are no known riparian areas located within the allotment on BLM managed lands. Therefore, no habitat for these species exists on the BLM managed lands of this allotment.

3.3.3.2 Environmental Consequences

Proposed Action

Because the sensitive bird species found in this allotment typically nest at a height greater than what livestock can reach (3 feet and above), no impacts to birds are anticipated.

Studies on dietary overlap between desert bighorn sheep and cattle vary. One study between desert bighorn sheep and cattle in the Virgin Mountains of the northern Mojave Desert in Arizona did not find forage competition to be apparent (Morgart 1990). However, according to Nevada Department of Wildlife's (NDOW) Bighorn Sheep Management Plan (2001), it is important that bighorn sheep habitats are maintained in good to excellent ecological condition because livestock directly compete with bighorns for forage, water, and space. The current condition of this habitat is unknown. The proposed action is designed to maintain or move toward good to excellent ecological condition, therefore minimizing effects to desert bighorn sheep.

Very few studies have shown disease transmission between desert bighorn sheep and cattle as an issue. Experiments that put bighorn sheep in contact with species that were not domestic sheep (i.e. cattle, horses, elk, etc.) do not support a stress or transmission of fatal microbes hypothesis (Schommer and Woolever 2008).

No Action Alternative

According to the *Nevada Comprehensive Bird Conservation Plan* (2010), "Domestic livestock (cattle and sheep) are a long-established component of most publicly managed lands in Nevada….Livestock grazing, however, is not invariably harmful to birds, and it may sometimes be beneficial for achieving particular management objectives." The Plan concludes that "overgrazing" may be a conservation concern when it involves the removal of understory vegetation at sensitive times or leads to permanent changes in vegetation composition and structure.

Also, under the no action alternative, the terms and conditions listed under 2.1.2 in the Proposed Action and in Appendix III of this EA would not be included in the new permit.

No Grazing Alternative

The no grazing alternative, as discussed in section 3.3.1.2, would remove any pressure from invasive annual grasses and allow fuel loading to increase. Increased fire frequency and severity removes and prevents the re-establishment of native perennial species. Recovery and survival of perennial habitat components is dependent on maintaining historic disturbance regimes. If invasive annual grasses are allowed to flourish without any competitive pressure, fuel loading will eventually lead to more frequent and more intense fires. Wildfires could be detrimental to sensitive species and their associated habitats.

4.0 Cumulative Effects

4.1 Past Actions

Livestock grazing operations in the planning area developed during the mid to late-1800s. The Ely PRMP/FEIS summarizes livestock grazing history in the region on pages 3.16–1 to 3.16–3. Range improvements have occurred on the allotment to improve grazing management and include fencing and stockwater developments.

No known vegetation treatments (e.g., chainings, seedings, sprayings, etc.) have been implemented elsewhere within the allotment.

4.2 Present Actions

Currently two permittees hold grazing privileges on the Lower Lake West Allotment.

There are no known riparian areas located within the allotment on BLM managed lands.

There are two existing permanent livestock watering locations on the allotment, to which the permittees have to haul water. Consequently, this constitutes the sole means by which water is supplied in the allotment. The permittee has proposed eight additional waterhaul locations within the allotment, to attain better livestock distribution, which will yield a total of ten waterhauling locations (Appendix I, Map #2).

Widely dispersed incidental recreation occasionally occurs within the allotment in the form of 4-wheeling (OHV) and wildlife viewing. Organized recreational events have occurred which were confined to existing roads.

4.3 Reasonably Foreseeable Future Actions

Widely dispersed incidental recreation and organized recreational events will continue into the future. Livestock grazing will continue under the existing grazing permits on the allotment. Upon expiration, the permits will be considered for renewal through site-specific NEPA analysis.

4.4 Cumulative Effects Summary

4.4.1 Proposed Action

According to page 36 of the 1994 BLM publication *Guidelines for Assessing and Documenting Cumulative Impacts*, the cumulative analysis should be focused on those issues and resource values where the incremental impact of the Proposed Action results in a meaningful change in the cumulative effect from other past, present and reasonably foreseeable future actions within the Cumulative Effects Study Area (CESA). In addition, a comprehensive cumulative impacts analysis can be found in section 4.28 of the Ely RMP/FEIS.

The CESA, regarding livestock grazing, is defined as the White River South Watershed.

Additionally, the guidance provided in The National BLM NEPA Handbook H-1790-1 (2008), for analyzing cumulative effects issues states, "determine which of the issues identified for analysis may involve a cumulative effect with other past, present, or reasonably foreseeable future actions. If the proposed action and alternatives would have no direct or indirect effects on a resource, you do not need a cumulative effects analysis on that resource" (p.57).

A comprehensive cumulative impacts analysis can be found on pages 4.28-1 through 4.36-1 of the Ely Proposed Resource Management Plan/Final Environmental Impact Statement (November 2007).

The proposed action in conjunction with the past, present and reasonable foreseeable future actions would result in no noticeable overall changes to the affected environment. Grazing under the proposed permit renewals would aid in maintaining the Standards for Rangeland Health, with the understanding that adjustments to grazing management would occur when it is determined that any of the Standards are not being achieved. Appropriate action would be taken as soon as practicable, but not later than the start of the next grazing year upon determining that existing

grazing management practices or levels of grazing use on public lands are significant factors in failing to achieve the standards and conform with the guidelines (43 CFR §4180.2 (c)).

No cumulative impacts of concern are anticipated as a result of the proposed action in combination with any other existing or planned activity.

4.4.2 No Action Alternative

Same cumulative effect as the Proposed Action, above.

4.4.3 No Grazing Alternative

The No Grazing Alternative will not have any cumulative effects on rangeland health.

5.0 Proposed Mitigation and Monitoring

5.1 Proposed Mitigation

Outlined design features incorporated into the proposed action are sufficient. No additional mitigation is proposed based on the analysis of environmental consequences.

5.2 Proposed Monitoring

Appropriate monitoring has been included as part of the Proposed Action. No additional monitoring is proposed as a result of the impact analysis.

6.0 Consultation and Coordination

6.1 List of Preparers - BLM Resource Specialists

Domenic A. Bolognani	Rangeland Management Specialist/Project Lead
Daniel Condie	Rangeland Management Specialist
Chris Mayer	Supervisory Rangeland Management Specialist
Clinton Wertz	NEPA Coordinator
Alicia Styles	Wildlife, Special Status Species, Migratory Birds
Clinton Wertz	Soil, Water, Wetlands and Riparian, Floodplains
Cameron Boyce	Noxious and Invasive, Non-native Species
Nick Pay	Cultural Resources
Elvis Wall	Native American Cultural Concerns
Melanie Peterson	Hazardous & Solid Waste/Safety
Lisa Domina	Recreation, Visual Resources

6.2 Persons, Groups or Agencies Consulted

On April 23, 2013, the BLM sent a memorandum to the U.S. Fish and Wildlife Service requesting Section 7 consultation, regarding the proposed action, for the federally threatened Agassiz's desert tortoise (*Gopherus agassizii*).

Public Notice of Availability

The Ely District Office mails an annual Consultation, Cooperation and Coordination (CCC) letter, for various program areas, to individuals and organizations who have previously expressed an interest in federal actions on the Ely District. Through the CCC letter, the public has the opportunity to submit a request to be a 2013 interested public for grazing management actions on the Ely BLM District; and to specify the specific grazing management actions and grazing allotments in which they are interested. Grazing permittees are automatically included on the Grazing Interested Public Mailing List for any allotment on which they have a grazing permit.

On January 12, 2013, the aforementioned Ely BLM annual CCC letter was mailed.

On October, 11, 2012, authorization numbers 2703863 and 2705132 were each sent a letter informing them of the proposed term permit renewal process, associated with their permit on the Lower Lake West Allotment, scheduled during 2013 grazing year. No comments were received.

On April 16, 2013, the proposal to fully process the term permit for authorization numbers 2703863 and 2705132 was posted on the following E-Gov for Planning (ePlanning) and National Environmental Policy Act (NEPA) website:
https://www.blm.gov/epl-front-office/eplanning/nepa/nepa_register.do.

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APPENDIX I
(EA)

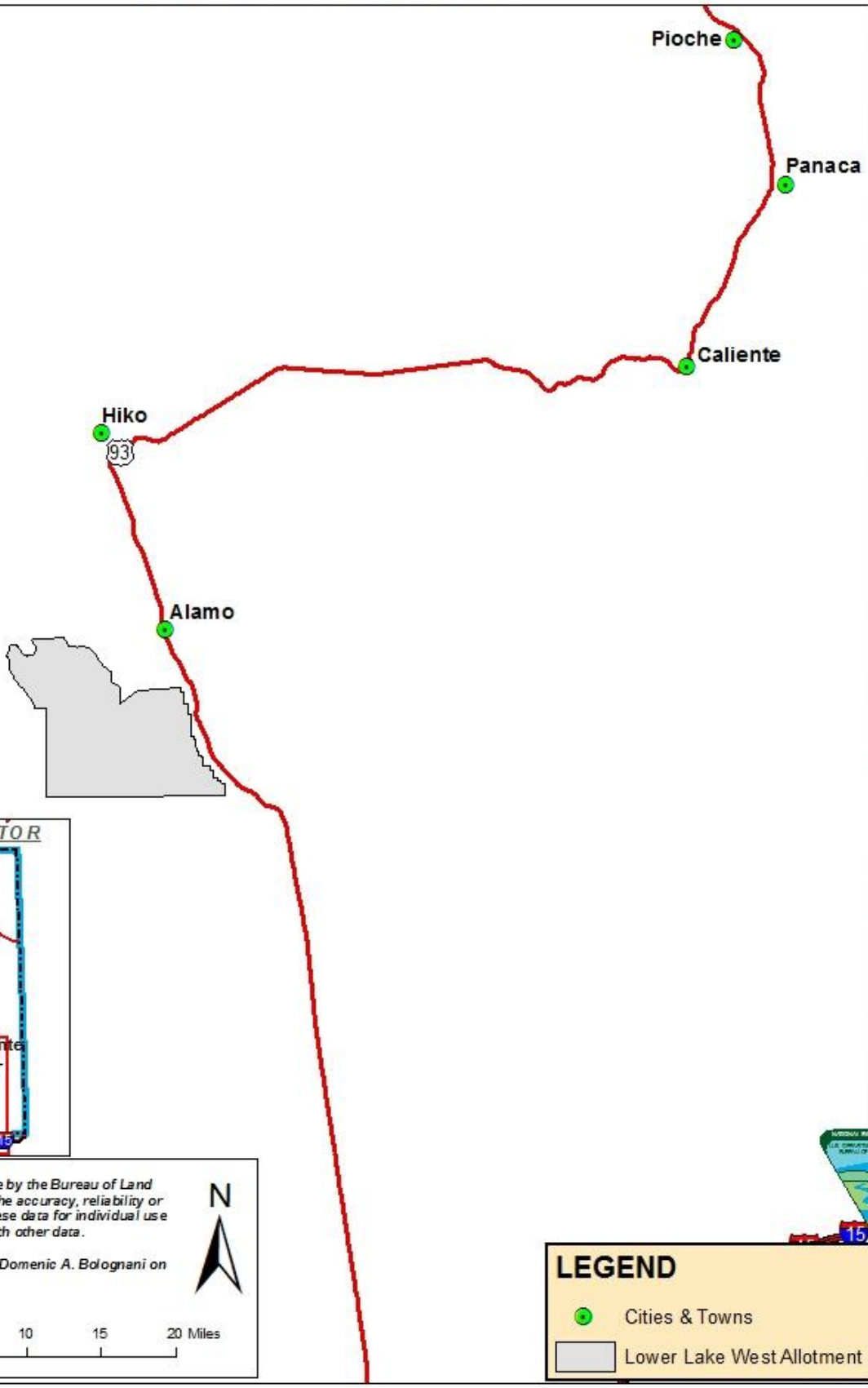
MAP(S)

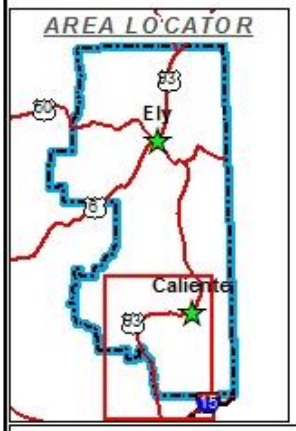
MAP #1

Location of the Lower Lake West Allotment (#11013)
with Respect to the Surrounding Towns.

BLM

Ely District Office





No warranty is made by the Bureau of Land Management as to the accuracy, reliability or completeness of these data for individual use or aggregate use with other data.

Map Produced by: Domenic A. Bolognani on 8/21/2012

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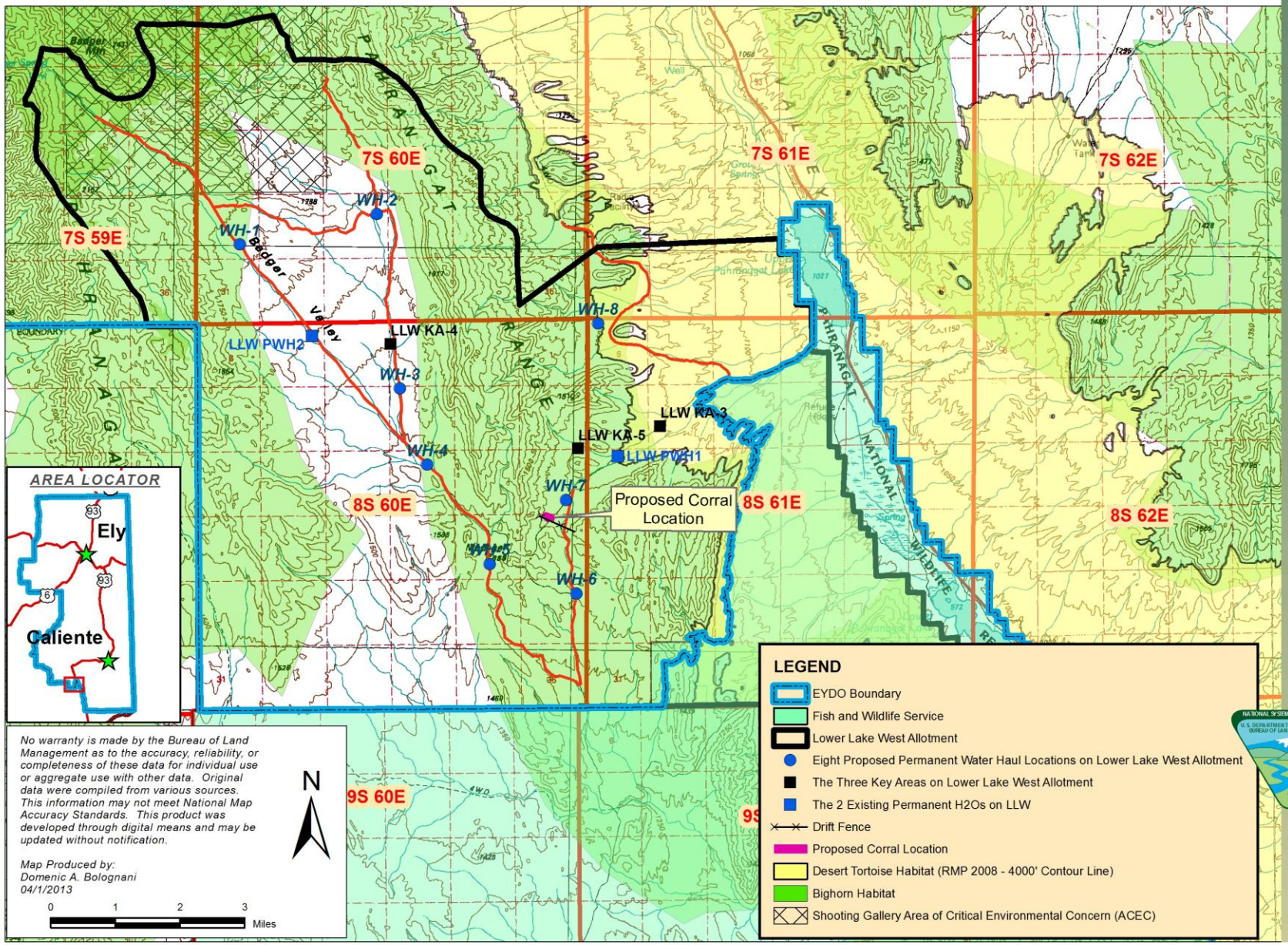
LEGEND

- Cities & Towns
- Lower Lake West Allotment

MAP #2

Location of Eight Proposed Permanent Waterhaul Locations and a Proposed Permanent Corral on the Lower Lake West Allotment with Respect to Existing Waters, Established Key Areas, Desert Tortoise and Bighorn Sheep Habitat, and the Shooting Gallery Area of Critical Environmental Concern (ACEC) .



No warranty is made by the Bureau of Land Management as to the accuracy, reliability, or completeness of these data for individual use or aggregate use with other data. Original data were compiled from various sources. This information may not meet National Map Accuracy Standards. This product was developed through digital means and may be updated without notification.

Map Produced by:
Domenic A. Bolognani
04/1/2013

BLM

Ely District Office

APPENDIX II

(EA)

STANDARDS DETERMINATION DOCUMENT

STANDARDS DETERMINATION DOCUMENT

Term Grazing Permit Renewal for
Authorization #2705132 and #2703863
on the Lower Lake West Allotment (#11013)

(DOI-BLM-NV-L030-2013-0001-EA)

Standards and Guidelines Assessment

The Mojave-Southern Great Basin Standards and Guidelines for grazing administration were developed by the Mojave-Southern Great Basin Resource Advisory Council (RAC) and approved by the Secretary of the Interior on February 12, 1997.

Standards of rangeland health are expressions of physical and biological conditions required for sustaining rangelands for multiple uses. Guidelines point to management actions related to livestock grazing for achieving the Standards. Guidelines are options that move rangeland conditions toward the multiple use Standards. Guidelines are based on science, best rangeland management practices and public input. Therefore, determination of rangeland health is based upon conformance with these standards. Thus Guidelines indicate the types of grazing methods and practices for achieving the Standards for multiple use, are developed for functional watersheds and implemented at the allotment level.

This Standards Determination document evaluates livestock grazing management and achievement of the Standards and Guidelines for the Lower Lake West Allotment. It does not evaluate or assess the Standards or Guidelines for Wild Horses and Burros. Publications used in assessing and determining achievement of the Standards include: Ely Record of Decision and Approved Resource Management Plan (RMP) (August 2008); Sampling Vegetation Attributes; National Range and Pasture Handbook published by the Natural Resources Conservation Service (NRCS); Nevada Rangeland Monitoring Handbook; Utilization Studies and Residual Measurements; Nevada Plant List; and Major Land Resource Area (MLRA 29 and MLRA 30) Rangeland Ecological Site Descriptions. A complete list of references is included at the end of this document. These documents are available for public review at the Caliente Field Office during business hours.

The Lower Lake West Allotment, a land based allotment having two permittees, is located in southern Lincoln County, Nevada. It is approximately 60 miles southwest of Caliente, Nevada and approximately 8 miles south of Alamo, Nevada (Appendix A, Map #1). It is located within the White River South Watershed (#160C), and is approximately 48,500 acres in size. Cattle are the type of livestock grazed on the allotment. Elevations range from approximately 7,000 feet near the northwest boundary of the allotment to approximately 3,500 feet along the east boundary.

Neither the allotment nor any of its portions are located within a Wild Horse Herd Management Area (HMA), Wilderness or Wilderness Study Area.

However, the northeast portion of the Lower Lake West Allotment contains habitat for the federally threatened Agassiz's desert tortoise (*Gopherus agassizii*) (Appendix A, Map #2). Desert tortoise critical habitat and desert tortoise Areas of Critical Environmental Concern (ACEC) do not exist within the allotment. The central and west portions of the allotment also contain bighorn sheep habitat.

There are no known riparian areas located within the allotment on BLM managed lands.

There are two existing permanent livestock watering locations on the allotment, to which the permittees have to haul water. Consequently, this constitutes the sole means by which water is supplied in the allotment (Appendix A, Map #2).

Two key areas (KAs) were originally established in the Lower Lake West Allotment in 1982. However, both of these were in the portion of the allotment which was transferred to the U.S. Fish and Wildlife Service's (USFWS) Desert National Wildlife Range, and are no longer within the allotment boundary. Therefore, these KAs were not used in the evaluation of the allotment. Consequently, LLW KA-3 and LLW KA-4 were newly established by an interdisciplinary team during February 2012, as replacements. A third Key area (LLW KA-5) was established January 11, 2013. A map showing the three newly established key areas with respect to existing watering locations may be found in Appendix A, Map #2**.**

Utilization data – reflecting grazing use during the 2011 grazing year (3/1 – 2/28) – and cover data were obtained at LLW KA-3 and LLW KA-4 on February 9, 2012.

The Key Species Method was used in determining grazing use according to the Nevada Rangeland Monitoring Handbook (2006). This method is based on percent utilization of current year's growth, by weight. Cover data were obtained using the Line Intercept Method. The method is described in Sampling Vegetation Attributes (USDI-BLM et. al., 1996).

Table 1 in Appendix B displays annual livestock grazing use for authorization numbers 2703863 and 2705132 on the Lower Lake West Allotment - as AUMs licensed each year by each permittee; total AUMs licensed each year on the allotment for both permittees; and, total AUMs licensed each year on allotment as a percent of the total Active Use of both permittees - from March 1, 2003 through February 28, 2013 (10 years). The table also displays the individual Total Active Use for both permittees, and the Season of Use on the allotment.

As the table indicates during the 10 year timespan, the total AUMs licensed each year on allotment as a percent of the total active use of both permittees, ranged from 18% in 2004 to 70% in 2006 with a 10-year average of approximately 36%. This indicates that the allotment has received very little use over the past 10 years.

The following table shows the mandatory terms and conditions, for authorization 2703863 and 2705132 on the Lower lake West Allotment.

ALLOTMENT		Authorization Num.	LIVESTOCK		GRAZING PERIOD		** % Public Land	AUMs		
Name	Number		* Number	Kind	Begin	End		Active Use	Hist. Susp. Use	Permitted Use
Lower Lake West	11013	#2703863	54	cattle	3/1	2/28	100%	647	0	647
		#2705132	50	cattle	3/1	2/28	100%	600	0	600

* These numbers are approximate
** This is for billing purposes only.

The following is an analysis of monitoring data which were used to evaluate applied management practices during the evaluation period. These data were used in determining if such management practices yielded results that were in conformance with the Mojave - Southern Great Basin Standards.

STANDARD 1. SOILS:

"*Watershed soils and stream banks should have adequate stability to resist accelerated erosion, maintain soil productivity, and sustain the hydrologic cycle."*

Soil indicators:
- Ground cover (vegetation, litter, rock, bare ground);
- Surfaces (e.g., biological crusts, pavement); and
- Compaction/infiltration.

Riparian soil indicators:
- Stream bank stability.

All of the above upland indicators have been deemed appropriate to the potential of the ecological site.

Determination:

X Achieving the Standard

☐ Not achieving the Standard, but making significant progress towards meeting the Standard.

☐ Not achieving the Standard, not making significant progress towards meeting the Standard.

Causal Factors:

☐ Livestock are a contributing factor to not meeting the standard.

☐ Livestock are not a contributing factor to not meeting the standard.

☐ Failure to meet the standard is related to other issues or conditions.

Guidelines Conformance:

X In conformance with the Guidelines

☐ Not in conformance with the Guidelines

Soil Mapping Units and corresponding Rangeland Ecological Site Descriptions, as determined by the NRCS, combined with professional field observations were used to determine the ecological site represented by each key area.

Key Area 3 (LLW KA-3) was determined to be located in a Shallow Limy 5-7" P.Z. (030XB031NV – (shadscale (*Atriplex confertifolia*)-spiny menodora (*Menodora spinosa*)/Indian ricegrass (*Achnatherum hymenoides*).

The soils of this site are shallow to a duripan or petrocalcic layer. They are well drained, have slow runoff, and have very slow permeability. These soils have typically formed in alluvium from ignimbritic parent material. Available water holding capacity is very low.

Key Area 4 (LLW KA-4) was determined to be located in a Shallow Gravelly Slope 8-10" P.Z. **(**029XY019NV – blackbrush (*Coleogyne ramosissima*)/desert needlegrass (*Achnatherum speciosum*)-Indian ricegrass**)**.

The soils of this site are typically shallow and are derived from mixed parent material. A hardpan, or other restrictive layers limit plant rooting depth. Soil texture varies from loams to clays and surfaces may be cobbly or gravelly. Water intake rates are slow, available water capacity is moderate to low, runoff is slow to medium and soils are well drained. The soil is dry most of the year but is moist for short periods during the winter and early spring months and occasionally for short intermittent periods following summer convection storms.

Key area 5 (LLW KA-5) was determined to be located in a Sandy 5-7" P.Z. (030XB004NV – burrobush (*Ambrosia dumosa*)/big galleta (*Pleuraphis rigida*)-Indian ricegrass

The surface soil texture is fine or very fine sand typically greater than 7 inches in depth to a soil textural change (i.e. sand to sandy loam) and/or a change in soil structure (i.e. single-grained to platy). The soil surface has a cover of less than 15 percent of small, usually rounded, pebbles (<1.2" diameter). Water intake rates are rapid and available water capacity is very low.

The following four photos (Figures 1-3) show the vegetation and soil surface characteristics of each of the key areas.

Figure 1. Overview of Study Site LLW KA-3 showing existing vegetation.

Figure 2. Overview of Study Site LLW KA-4 showing existing vegetation.

Figure 3. Looking north near LLW KA-5 showing existing vegetation.

The table below shows a comparison summary of cover data, collected at each key area on the Lower Lake West Allotment, to the potential natural community (PNC) cover value for the applicable range site.

Key Area	Range Site	Associated Vegetation Type	% Cover Collected at Key Area	% Cover at PNC In Applicable Rangeland Site Description
LLW KA-3	* 030XB031NV	ATCO-MESP2/ACHY	16.8%	5% – 15%
LLW KA-4	RO29XY019NV	CORA/EPNE/MESP2	37.8%	10%-20%
LLW KA-5	* 030XB004NV	AMDU2/ PLRI3/ACHY	20.15%	15-30%

* Based upon Soil Mapping Units as provided by the Natural Resource Conservation Service (NRCS) along with ground reconnaissance.

Conclusion: *Standard 1 Achieved*

According to the site description applicable to the key areas, potential ground cover (basal and crown) should range between 5 – 30%. As the above table shows, cover values at each key area occurs within – or even exceeds – this range.

Utilization data collected at key areas LLW KA-3 and LLW KA-4, reflecting grazing use during the 2011 grazing year was in the Slight (18%) and Light (24%) use categories, respectively.

Therefore, grazing use data indicates that overgrazing is not an issue at current levels.

Field observations on the allotment have substantiated that soils were stable, native plants were not pedestalled and there were no signs of soil compaction. This indicates that the allotment has sufficient vegetative cover to maintain stability and to resist accelerated erosion, maintain soil productivity and, thus, sustain the hydrologic cycle. It further indicates that there is minimal wind and/or water erosion of topsoil, and apparent appropriate infiltration of water from snowmelt and rainfall. In addition, the gravelly/stony soil surface characteristics found in soil mapping units comprising large portions of the allotment further contribute to soil protection. In visits to the allotment in the fall of 2012 there was some indication of general movement of soil in the eastern portion of the allotment due to the abnormally intense rain events in the late summer.

Collectively, slight to light grazing intensities and sufficient live vegetative cover infers litter production that further adds to increased soil protection and stability. Field observations have substantiated various amounts of scattered litter throughout the allotment.

STANDARD 2 ECOSYSTEM COMPONENTS:

"Watersheds should possess the necessary ecological components to achieve state water quality criteria, maintain ecological processes, and sustain appropriate uses."

"Riparian and wetlands vegetation should have structural and species diversity characteristic of the stage of stream channel succession in order to provide forage and cover, capture sediment, and capture, retain, and safely release water (watershed function)."

Upland indicators:

- Canopy and ground cover, including litter, live vegetation, biological crust, and rock appropriate to the potential of the ecological site.
- Ecological processes are adequate for the vegetative communities.

Riparian indicators:

- Stream side riparian areas are functioning properly when adequate vegetation, large woody debris, or rock is present to dissipate stream energy associated with high water flows.
- Elements indicating proper functioning condition such as avoiding acceleration erosion, capturing sediment, and providing for groundwater recharge and release are determined by the following measurements as appropriate to the site characteristics:

    - Width/Depth ratio;
    - Channel roughness;
    - Sinuosity of stream channel;
    - Bank stability;

- Vegetative cover (amount, spacing, life form); and
- Other cover (large woody debris, rock).

- Natural springs, seeps, and marsh areas are functioning properly when adequate vegetation is present to facilitate water retention, filtering, and release as indicated by plant species and cover appropriate to the site characteristics.

Water quality indicators:

- Chemical, physical and biological constituents do not exceed the state water quality standards.

Determination:

X Meeting the Standard

☐ Not meeting the Standard, but making significant progress towards meeting the Standard.

☐ Not meeting the Standard, not making significant progress towards meeting the Standard.

Causal Factors:

☐ Livestock are a contributing factor to not meeting the standard.

☐ Livestock are a contributing factor to not meeting the standard.

☐ Failure to meet the standard is related to other issues or conditions.

Guidelines Conformance:

X In conformance with the Guidelines

☐ Not in conformance with the Guidelines

Conclusion: *Standard 2*

Upland Ecosystem Components - *Achieved*
Riparian Habitat Components – *Not Applicable*

Uplands

Data and field observations relating to soils, hydrologic processes, canopy and ground cover (including litter and rock) were discussed in Standard I which was achieved. Observed live vegetation species are discussed in Standard 3.

The allotment supports a healthy, diverse variety of native shrubs with a smaller component of annual forbs and perennial grasses; all of which provide soils with the appropriate inputs of organic matter to become incorporated into the surface soil layer. Summarily, all of this infers that ecological processes are adequate for the existing vegetative communities, while sustaining appropriated uses.

Riparian

There are no known riparian areas found on public lands within the Lower Lake West Allotment.

STANDARD 3 HABITAT AND BIOTA:

"Habitats and watersheds should sustain a level of biodiversity appropriate for the area and conducive to appropriate uses. Habitats of special status species should be able to sustain viable populations of those species."

Habitat indicators:

- Vegetation composition (relative abundance of species);
- Vegetation structure (life forms, cover, height, and age classes);
- Vegetation distribution (patchiness, corridors);
- Vegetation productivity; and
- Vegetation nutritional value.

Wildlife indicators:

- Escape terrain;
- Relative abundance;
- Composition;
- Distribution;
- Nutritional value; and
- Edge-patch snags.

The above indicators shall be applied to the potential of the ecological site.

Determination:

X **Achieving the Standard**

☐ Not achieving the Standard, but making significant progress towards meeting the Standard.

☐ Not achieving the Standard, not making significant progress towards meeting the Standard.

Causal Factors:

☐ Livestock are a contributing factor to not meeting the standard.

☐ Livestock are not a contributing factor to not meeting the standard.

☐ Failure to meet the standard is related to other issues or conditions.

Guidelines:

X **In conformance with the Guidelines**

☐ Not in conformance with the Guidelines

General field observations revealed that, at least, fifteen perennial species of shrubs; six perennial species of grasses; a variety of perennial forb species; three species of trees; and three different species of cacti exist in a patchy network within the allotment. The following table displays these observations:

Shrubs	Grasses	Forbs	Trees	Cacti
Anderson's wolfberry (*Lycium andersonii*)	big galleta (*Pleuraphis* rigida)	desert globemallow (*Sphaeralcea ambigua*)	joshua tree (*Yucca brevifolia*)	barrel cactus (*Ferocactus spp.*)
burrobrush (*Hymenoclea salsola*)	low whollygrass (fluffgrass) (*Dasyochloa pulchella*)	desert trumpet (*Eriogonum inflatum*)	pinion pine *(Pinus monophylla)*	cholla (*Opuntia spp.*)
bud sagebrush (*Picrothamnus desertorum*)	Indian ricegrass (*Achnatherum hymenoides*)	redstem stork's bill (*Erodium cicutarium*)	juniper (Juniperus osteosperma)	prickly pear (*Opuntia spp.*)
creosote bush (*Larrea tridentata*)	purple threeawn (*Aristida purpurea*)	desert marigold (*Baileya pleniradiata*)		
horsebrush (*Tetradymia spp.*)	squirreltail (*Elymus elymoides*)	skeleton weed (*Erodium deflexum*)		
Nevada ephedra (*Ephedra nevadensis*)	sand dropseed (*Sporobolus cryptandrus*)			
shadscale (*Atriplex confertifolia*)				
snakeweed (*Gutierrezia spp.*)				
spiny menodora (*Menodora spinescens*)				
spiny hopsage (*Grayia spinosa*)				
burrobush (*Ambrosia dumosa*)				
cliffrose (*Purshia stansburiana*)				
paper bag bush (*Salazaria mexicana*)				
Brittlebush (*Encelia frutescens*)				
four-wing saltbush (*Atriplex conescens*)				

Conclusion: *Standard 3 Achieved*

Habitat indicators for Standard 3 refer to vegetative composition, structure, distribution, productivity, and nutritional value. Vegetative conditions on the Lower Lake West Allotment suitably reflect these attributes.

Field observations revealed diversity in vegetation types that are distributed in a patchy nature across the landscape within the allotment. Observations also indicate that species composition, for each occurring range site, is appropriate throughout the allotment. This indicates productive and functional plant communities with suitable structure and distribution.

Spiny hopsage, Nevada ephedra, spiny menodora, bud sagebrush, shadscale, Indian ricegrass, galleta and squirreltail are known to be nutritious, palatable plant species for livestock and/or wildlife. Various forb species were also noted on the allotment. This serves to provide a variable and productive forage base; and in combination with the aforementioned characteristics of the landscape, is capable of supporting a level of biodiversity appropriate for the area while being conducive to appropriate uses.

Moderate to good species diversity of perennial plants, coupled with low levels of grazing use, indicate that there is sufficient ground cover (in the form of live vegetation and litter) to protect

soils and perpetuate vegetative productivity while ensuring appropriate vegetative structure and diversity.

In concert, the various vegetation habitats within the allotment provide escape terrain and thermal cover, while short and tall statured woody species create perching/nesting habitat for the avian community. These habitats also offer a desirable environment for a variety of small mammals, reptiles and assorted numerous songbirds.

PART 2. ARE LIVESTOCK A CONTRIBUTING FACTOR TO NOT MEETING THE STANDARDS?

All applicable Standards are being achieved.

PART 3. GUIDELINE CONFORMANCE REVIEW and SUMMARY

GUIDELINES for *SOILS* (Standard 1):

See Conclusion for Standard 1, and Part 2 above.

Current livestock grazing management practices conform to Guideline 1.1. The remaining three Guidelines are not applicable to the assessment area at this time.

Upland management practices are maintained and promoted through adequate vegetative ground cover.

GUIDELINES for *ECOSYSTEM COMPONENTS* (Standard 2):

See Conclusion for Standard 2, and Part 2 above.

Uplands

Current livestock grazing management practices conform to Guidelines 2.3 and 2.4. The remaining six Guidelines are not applicable to the assessment area at this time.

Riparian

There are no known riparian areas found on public lands within the Lower Lake West Allotment. Therefore, Standard 2 and associated Guidelines, regarding the riparian portion of this standard, are not applicable.

GUIDELINES for *HABITAT AND BIOTA* (Standard 3):

See Conclusion for Standard 3, and Part 2 above.

Current livestock grazing management practices conform to Guidelines 3.1, 3.2, 3.3, 3.4, 3.5 and 3.6. The remaining three Guidelines are not applicable to the assessment area at this time.

PART 4. MANAGEMENT PRACTICES TO CONFORM WITH GUIDELINES AND ACHIEVE STANDARDS

- Maintain the full Active Use and Season of Use as stated in the current term permits. However, the authorization of the current total Active AUMs for each permittee, during any given year, would be based on annual forage availability; and the terms and conditions and Best Management Practices included in the new term permits.

- Establish eight additional watering locations within the allotment in an effort to provide better cattle distribution.

Incorporate the following Best Management Practices into the new Term Grazing Permits:

1. Allowable Use Levels on current year's growth of upland vegetation (grasses, forbs and shrubs) within the Lower Lake West Allotment - during the authorized grazing use period (3/1-2/28) - will not exceed 40%.

2. Watering locations will be rotated, so that those used during one grazing season will not be used during the next.

3. Under the discretion of the BLM, waterhauling locations will be used in a manner which will yield maximum livestock distribution within the allotment. Herding will be used, as needed, to achieve this objective.

4. Waterhauling will be limited to existing roads. No roads will be bladed or improved in any way, with mechanical equipment, without the expressed consent of the authorized officer.

Finally, the following terms and conditions, from the Programmatic Biological Opinion for the Bureau of Land Management's Ely District Resource Management Plan (File No. 84320-2008-F-0078) (pp. 132-133), would be included in the term grazing permits to minimize incidental take of desert tortoises that may result from the implementation of programs in general:

5. Prior to initiation of an activity within desert tortoise habitat, a desert tortoise awareness program shall be presented to all personnel who will be onsite, including but not limited to contractors, contractors' employees, supervisors, inspectors, and subcontractors. This program will contain information concerning the biology and distribution of the desert tortoise and other sensitive species, their legal status and occurrence in the project area; the definition of "take" and associated penalties; speed limits; the terms and conditions of this

biological opinion including speed limits; the means by which employees can help facilitate this process; responsibilities of workers, monitors, biologists, etc.; and reporting procedures to be implemented in case of desert tortoise encounters or noncompliance with this biological opinion.

6. Tortoises discovered to be in imminent danger during projects or activities covered under this biological opinion, may be moved out of harm's way.

7. Desert tortoises shall be treated in a manner to ensure they do not overheat, exhibit signs of overheating (e.g., gaping, foaming at the mouth, etc.), or are placed in a situation where they cannot maintain surface and core temperatures necessary to their well-being. Desert tortoises will be kept shaded at all times until it is safe to release them. No desert tortoise will be captured, moved, transported, released, or purposefully caused to leave its burrow for whatever reason when the ambient air temperature is above 95ºF. Ambient air temperature will be measured in the shade, protected from wind, at a height of two inches above the ground surface. No desert tortoise will be captured if the ambient air temperature is anticipated to exceed 95ºF before handling and relocation can be completed. If the ambient air temperature exceeds 95ºF during handling or processing, desert tortoises will be kept shaded in an environment that does not exceed 95ºF and the animals will not be released until ambient air temperature declines to below 95ºF.

8. Desert tortoises shall be handled by qualified individuals. For most projects, an authorized desert tortoise biologist will be onsite during project activities within desert tortoise habitat. Biologists, monitors, or anyone responsible for conducting monitoring or desert tortoise field activities associated with the project will complete the Qualifications Form (Appendix D) and submit it to the Service for review and approval as appropriate. The Service should be allowed 30 days for review and response.

9. A litter-control program shall be implemented to minimize predation on tortoises by ravens drawn to the project site. This program will include the use of covered, raven-proof trash receptacles, removal of trash from project areas to the trash receptacles following the close of each work day, and the proper disposal of trash in a designated solid waste disposal facility. Appropriate precautions must be taken to prevent litter from blowing out along the road when trash is removed from the site. The litter-control program will apply to all actions. A litter-control program will be implemented by the responsible federal agency or their contractor, to minimize predation on tortoises by ravens and other predators drawn to the project site.

The following terms and conditions, also from the Programmatic Biological Opinion (pp. 138-140), would be included in the term grazing permits to minimize incidental take of desert tortoises that may result from permitting livestock grazing:

10. Livestock use may occur from March 1 to October 31, as long as forage utilization management levels are monitored and do not exceed 40 percent on key perennial grasses, shrubs and perennial forbs; and between November 1 and February 28/29, provided forage utilization management levels are monitored and do not exceed 50 percent on key perennial

grasses and 45 percent on key shrubs and perennial forbs. If the utilization management levels are reached, livestock will be moved to another location within the allotment or taken entirely off the allotment. No livestock grazing will occur in desert tortoise critical habitat March 1 through October 31.

11. Livestock grazing in desert tortoise habitat shall be managed in accordance with the most current version of the Desert Tortoise Recovery Plan, including allotments or portions of allotments that become vacant and occur within desert tortoise critical habitat outside of ACECs. Grazing may continue in currently active allotments until such time they become vacant. BLM will work with the permittees of active allotments to implement changes in grazing management to improve desert tortoise habitat which may include use of water, salt and mineral licks, or herding to move livestock; changes in season of use and/or stocking rates; installation of exclusionary fences; reconfiguring pasture or allotment boundaries; and retiring pastures or allotments.

12. When BLM proposes to issue a term permit or other type of grazing authorization, BLM shall provide the following to the Service with their request to append the action to this biological opinion:

    - An allotment-level assessment of current conditions (relative to listed species habitat); if unknown, a description of, and timeframe for actions BLM will implement to collect such information;
    - a plan and schedule for monitoring listed species habitat on the allotment;
    - a description of the grazing system and how it will minimize conflicts with listed species habitat;
    - proposed actions or remedies (e.g., reduce utilization levels, reduce AUMs, limit season-of-use) if listed species habitat has not attained the goals for the allotment; and
    - other information requested by the Service that is necessary to conclude activity-level consultation.

13. BLM and Service will cooperatively develop livestock grazing utilization levels or other thresholds, as appropriate for each of the listed species. These levels or thresholds shall be incorporated into each of the allotment term permit for those allotments that overlap with habitat for the listed species.

14. The permittee shall be required to take immediate action to remove any livestock that move into areas unavailable for grazing. If straying of livestock becomes problematic, BLM, in consultation with the Service, will take measures to ensure straying is prevented.

15. All vehicle use in listed species habitat associated with livestock grazing, with the exception of range improvements, shall be restricted to existing roads and trails. Permittees and associated workers will comply with posted speed limits on access roads. No new access roads will be created.

16. Use of hay or grains as a feeding supplement shall be prohibited within grazing allotments. Where mineral and salt blocks are deemed necessary for livestock grazing management they

will be placed in previously disturbed areas at least one half mile from riparian areas wherever possible to minimize impacts to flycatchers and listed fishes and their habitat. In some cases, blocks may be placed in areas that have a net benefit to tortoise by distributing livestock more evenly throughout the allotment, and minimizing concentrations of livestock that result in habitat damage. Waterhaul sites will also be placed at least one half mile from riparian areas.

17. Site visits shall be made to active allotments by BLM rangeland specialists and other qualified personnel, including Service biologists, to ensure compliance with the terms and conditions of the grazing permit. Any item in non-compliance will be rectified by BLM and permittee, and reported to the Service.

18. Livestock levels shall be adjusted to reflect significant, unusual conditions that result in a dramatic change in range conditions (e.g., drought and fire) and negatively impact the ability of the allotment to support both listed species and cattle.

In relation to grazing, there would be no additional terms and conditions needed for management practices to conform to guidelines to either make progress toward or to maintain achievement of the Standards for Rangeland Health.

REFERENCES

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Specialists:

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Clinton Wertz – Soil, Water & Air Quality, Floodplains & Riparian	Date
Cameron Boyce – Noxious and Invasive Weeds	Date

Prepared by:

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Reviewed by:

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I concur:

Victoria Barr – Caliente Field Manager	Date

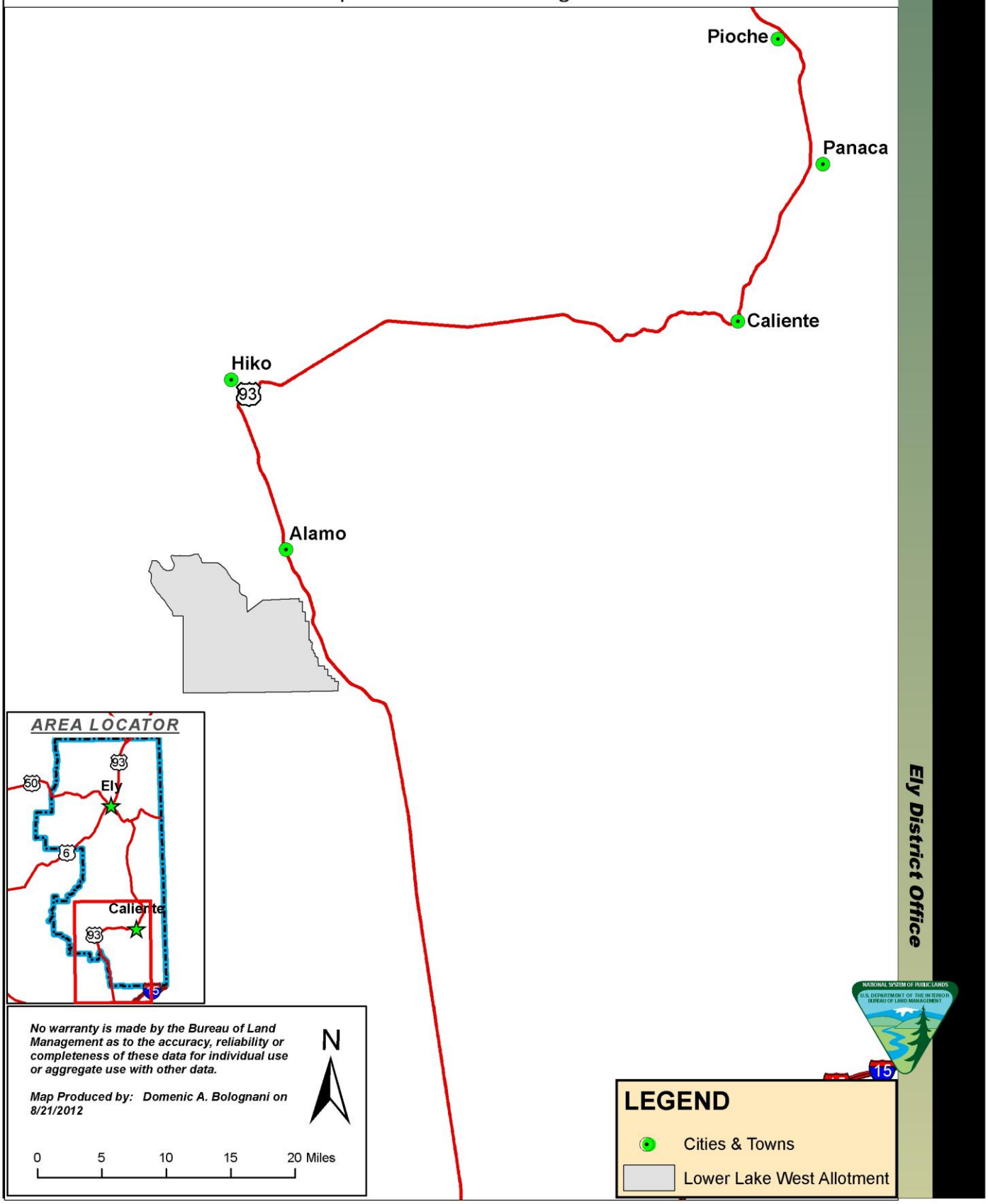
APPENDIX A

(Standards Determination Document)

MAPS

MAP #1

Location of the Lower Lake West Allotment (#11013)
with Respect to the Surrounding Towns.

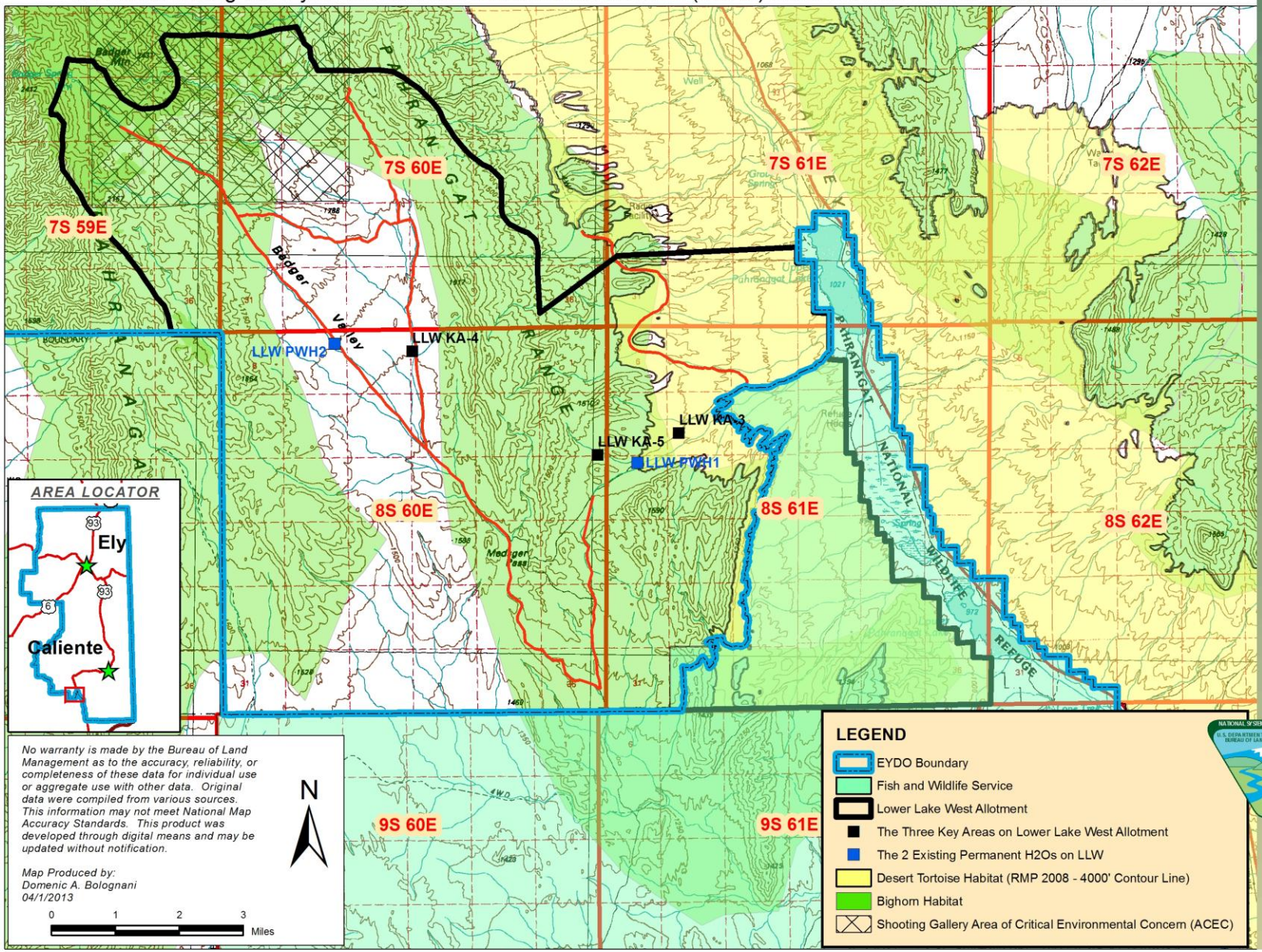


MAP #2

BLM

Ely District Office

Location of Existing Waters, Established Key Areas, Desert Tortoise and Bighorn Sheep Habitat, and the Shooting Gallery Area of Critical Environmental Concern (ACEC) within the Lower Lake West Allotment.



APPENDIX B

(Standards Determination Document)

Table 1. Annual Livestock Grazing Use for authorization #2703863 and #2705132 on the Lower Lake West Allotment - as AUMs Licensed Each Year by Each Permittee; Total AUMs Licensed Each Year on the Allotment for both Permittees; and Total AUMs Licensed Each Year on Allotment as a Percent of the Total Active Use of Both Permittees - from March 1, 2003 through February 28, 2013 (10 years).

Current Term Grazing Permit Information - - - - - - - - - - - - - - Permittees/Season of Use/Active Use	Grazing Year (3/1 – 2/28)	Permittee Authorization #	AUMs Licensed Each Year (by permittee)	AUMs Licensed Each Year as % of Total Active Use (by permittee)	Total AUMs Licensed Each Year on Allotment (all permittees)	Total AUMs Licensed Each Year on the Allotment, as a % of the Total Active Use for both Permittees
Lower Lake West Allotment Season of Use = 3/1 - 2/28 **Active Use** #2703863 647 AUMs #2705132 600 AUMs **TOTAL 1,247** AUMs	2003	#2703863	211	33%	527	42%
		#2705132	316	53%		
	2004	#2703863	152	23%	230	18%
		#2705132	78	13%		
	2005	#2703863	394	61%	628	50%
		#2705132	234	39%		
	2006	#2703863	272	42%	872	70%
		#2705132	600	100%		
	2007	#2703863	161	25%	411	33%
		#2705132	250	42%		
	2008	#2703863	225	35%	449	36%
		#2705132	224	37%		
	2009	#2703863	311	48%	682	55%
		#2705132	371	62%		
	2010	#2703863	180	28%	180	14%
		#2705132	0	0%		
	2011	#2703863	298	46%	298	24%
		#2705132	0	0%		
	2012	#2703863	251	39%	251	20%
		#2705132	0	0%		
AVERAGE						**36.2%**

APPENDIX III

(EA)

STANDARD TERMS AND CONDITIONS

1. Livestock numbers identified in the Term Grazing Permit are a function of seasons of use and permitted use. Deviations from those livestock numbers and seasons of use may be authorized on an annual basis where such deviations are consistent with multiple-use objectives. Such deviations will require an application and written authorization from the authorized officer prior to grazing use.

2. The authorized officer is requiring that an actual use report (Form 4130-5) be submitted within 15 days after completing your annual grazing use.

3. Grazing use will be in accordance with the Standards and Guidelines for Grazing Administration. The Standards and Guidelines have been developed by the respective Resource Advisory Council and approved by the Secretary of the Interior on February 12, 1997. Grazing use will also be in accordance with 43 CFR Subpart 4180 - Fundamentals of Rangeland Health and Standards and Guidelines for Grazing Administration.

4. If future monitoring data indicates that Standards and Guidelines for Grazing Administration are not being met, the permit will be reissued subject to revised terms and conditions.

5. The permittee must notify the authorized officer by telephone, with written confirmation, immediately upon discovery of any hazardous or solid wastes as defined in 40 CFR Part 261.

6. The permittee is responsible for all maintenance of assigned range improvements including wildlife escape ramps for both permanent and temporary water troughs.

7. When necessary, control or restrict the timing of livestock movement to minimize the transport of livestock-borne noxious weed seeds, roots, or rhizomes between weed-infested and weed-free areas.

8. Livestock will be moved to another authorized pasture (where applicable) or removed from the allotment before utilization objectives are met or no later than 5 days after meeting the utilization objectives. Any deviation in livestock movement will require authorization from the authorized officer.

9. The placement of mineral or salt supplements will be a minimum distance of 1/2 mile from known water sources, riparian areas, winterfat dominated sites, sensitive sites, populations of special status plant species, and cultural resource sites. Mineral and salt supplements will also be one mile from active sage-grouse leks. Placing supplemental feed (i.e. hay, grain, pellets, etc.) on public lands without authorization is prohibited.

APPENDIX IV

(EA)

WEED RISK ASSESSMENT

RISK ASSESSMENT FOR NOXIOUS & INVASIVE WEEDS

Term Grazing Permit Renewal for
Authorization #2705132 and #2703863
on the Lower Lake West Allotment (#11013)

On April 1, 2013, a Noxious & Invasive Weed Risk Assessment was completed on the Lower Lake West Allotment in Lincoln County, Nevada in preparation for the permit renewal process scheduled during 2013.

The Bureau of Land Management (BLM), Caliente Field Office, proposes to fully process and issue new term grazing permits for authorization numbers 2703863 and 2705132 on the Lower Lake West Allotment.

The Proposed Action is to maintain the current mandatory terms and conditions as stated in the current term grazing permits, with grazing authorizations being based on annual forage availability; and the terms and conditions included in the new term permits.

The Proposed Action would also add other terms and conditions to the permits that would aid in achieving/maintaining the Mojave-Southern Great Basin Standards. No other changes to any of the permits would be made.

The following table displays the current term grazing permits for authorization Numbers 2703863 and 2705132 on the Lower Lake West Allotment:

ALLOTMENT		Authorization Num.	LIVESTOCK		GRAZING PERIOD		** % Public Land	AUMs		
Name	Number		* Number	Kind	Begin	End		Active Use	Hist. Susp. Use	Permitted Use
Lower Lake West	11013	#2703863	54	cattle	3/1	2/28	100%	647	0	647
		#2705132	50	cattle	3/1	2/28	100%	600	0	600

* These numbers are approximate
** This is for billing purposes only.

The Proposed Action would add the following Best Management Practices to the term grazing Permits:

1. Allowable Use Levels on current year's growth of upland vegetation (grasses, forbs and shrubs) within the Lower Lake West Allotment - during the authorized grazing use period (3/1-2/28) - will not exceed 40%.

2. Watering locations will be rotated, so that those used during one grazing season will not be used during the next.

3. Under the discretion of the BLM, waterhauling locations will be used in a manner which will yield maximum livestock distribution within the allotment. Herding will be used, as needed, to achieve this objective.

4. Waterhauling will be limited to existing roads. No roads will be bladed or improved in any way, with mechanical equipment, without the expressed consent of the authorized officer.

No field weed surveys were completed for this project. Instead the Ely District weed inventory data was consulted. This area was last surveyed in 2009. According to this survey, no noxious weeds are known to occur within or immediately adjacent to the Lower Lake West Allotment boundary.

However, while not officially documented, the following non-native invasive weeds occur within or vicinal to the allotment: cheatgrass (*Bromus tectorum*) and Russian thistle (*Salsola kali*).

Factor 1 assesses the likelihood of noxious/invasive weed species spreading to the project area.

None (0)	Noxious/invasive weed species are not located within or adjacent to the project area. Project activity is not likely to result in the establishment of noxious/invasive weed species in the project area.
Low (1-3)	Noxious/invasive weed species are present in the areas adjacent to but not within the project area. Project activities can be implemented and prevent the spread of noxious/invasive weeds into the project area.
Moderate (4-7)	Noxious/invasive weed species located immediately adjacent to or within the project area. Project activities are likely to result in some areas becoming infested with noxious/invasive weed species even when preventative management actions are followed. Control measures are essential to prevent the spread of noxious/invasive weeds within the project area.
High (8-10)	Heavy infestations of noxious/invasive weeds are located within or immediately adjacent to the project area. Project activities, even with preventative management actions, are likely to result in the establishment and spread of noxious/invasive weeds on disturbed sites throughout much of the project area.

For this project, the factor rates as Moderate (4) at the present time. Grazing can increase the populations of the invasive weeds already within the permitted areas and could aid in the introduction of weeds from surrounding areas. However the design features of the proposed action will help to prevent weeds from establishing or spreading.

Factor 2 assesses the consequences of noxious/invasive weed establishment in the project area.

Low to Nonexistent (1-3)	None. No cumulative effects expected.
Moderate (4-7)	Possible adverse effects on site and possible expansion of infestation within the project area. Cumulative effects on native plant communities are likely but limited.
High (8-10)	Obvious adverse effects within the project area and probable expansion of noxious/invasive weed infestations to areas outside the project area. Adverse cumulative effects on native plant communities are probable.

This project rates as Moderate (5) at the present time. If noxious weed infestations establish within the permitted area this could have an adverse impact those native plant communities however, the proposed action includes measures to increase native plants and to help prevent weeds from establishing. An increase of red brome could alter the fire regime in the area.

The Risk Rating is obtained by multiplying Factor 1 by Factor 2.

None (0)	Proceed as planned.
Low (1-10)	Proceed as planned. Initiate control treatment on noxious/invasive weed populations that get established in the area.

Moderate (11-49)	Develop preventative management measures for the proposed project to reduce the risk of introduction of spread of noxious/invasive weeds into the area. Preventative management measures should include modifying the project to include seeding the area to occupy disturbed sites with desirable species. Monitor the area for at least 3 consecutive years and provide for control of newly established populations of noxious/invasive weeds and follow-up treatment for previously treated infestations.
High (50-100)	Project must be modified to reduce risk level through preventative management measures, including seeding with desirable species to occupy disturbed site and controlling existing infestations of noxious/invasive weeds prior to project activity. Project must provide at least 5 consecutive years of monitoring. Projects must also provide for control of newly established populations of noxious/invasive weeds and follow-up treatment for previously treated infestations.

For this project, the Risk Rating is Moderate (20). This indicates that the project can proceed as planned as long as the following measures are followed:

- To eliminate the introduction of noxious weed seeds, roots, or rhizomes all interim and final seed mixes, hay, straw, hay/straw, or other organic products used for feed or bedding will be certified free of plant species listed on the Nevada noxious weed list or specifically identified by the BLM Ely District Office.

- Prior to entering public lands, the BLM will provide information regarding noxious weed management and identification to the permit holders affiliated with the project. The importance of preventing the spread of weeds to uninfested areas and importance of controlling existing populations of weeds will be explained.

- The range specialist for the allotment will include weed detection into project compliance inspection activities. If the spread of noxious weeds is noted, appropriated weed control procedures will be determined in consultation with BLM personnel and will be in compliance with the appropriate BLM handbook sections and applicable laws and regulations.

- Grazing will be conducted in compliance with the Ely District BLM noxious weed schedules. The scheduled procedures can significantly and effectively reduce noxious weed spread or introduction into the project area.

- When necessary, control or restrict the timing of livestock movement to minimize the transport of livestock-borne noxious weed seeds, roots, or rhizomes between weed-infested and weed-free areas.

- Any newly established populations of noxious/invasive weeds discovered will be communicated to the Ely District Noxious and Invasive Weeds Program for treatment.

Reviewed by: \s\ Cameron Boyce — 4/15/2013

Cameron Boyce
Natural Resource Specialist

Date

APPENDIX V
(EA)

Wildlife and Plant Species

Wildlife & Plants for Lower Lake West Allotment (1/29/13)
Highlighted species are BLM Sensitive Species in Nevada.

From Ely RMP, NV Natural Heritage Data & NDOW Diversity Data:

The allotment contains low density desert tortoise habitat, according to triangular transect data from 1987 to 1990.

Federal T&E Species
desert tortoise (*Gopherus agassizii*) federally threatened

BLM Sensitive Species
desert bighorn sheep (*Ovis canadensis nelsoni*)
chuckwalla (*Sauromalus ater*)
Northern leopard frog (*Rana pipiens*)

General wildlife
Mule deer (*Odocoileus hemionus*) general habitat
Southwest speckled rattlesnake (*Crotalus mitchellii*)
Striped whipsnake (*Coluber taeniatus*)

Migratory birds
The following data reflect survey blocks and/or incidental sightings of bird species within the project area boundaries from the Atlas of the Breeding Birds of Nevada (Floyd et al. 2007). These data represent birds that were confirmed, probably, or possibly breeding within the project area boundaries. These data are not comprehensive, and additional species not listed here may be present within the project area boundary. No survey blocks were located within the project area.

Golden eagle (*Aquila chrysaetos*)
Bald eagle (*Haliaeetus leucocephalus*)
Red-tailed hawk (*Buteo jamaicensis*)
Long-eared owl (*Asio otus*)
Merlin (*Falco columbarius*)
Prairie falcon (*Falco mexicanus*)
American kestrel (*Falco sparverius*)
Northern harrier (*Circus cyaneus*)
Cooper's hawk (*Accipiter cooperii*)
Peregrine falcon (*Falco peregrinus*)
Barn owl (*Tyto alba*)
Short-eared owl (*Asio flammeus*)
Turkey vulture (*Cathartes aura*)
Common raven (*Corvus corax*)
American coot (*Fulica americana*)
Mallard (*Anas platyrhynchos*)

Snowy egret (*Egretta thula*)
Great blue heron (*Ardea herodias*)
Black-crowned night-heron (*Nycticorax nycticorax*)
Mourning dove (*Zenaida macroura*)
Northern rough-winged swallow (*Stelgidopteryx serripennis*)
Violet-green swallow (*Tachycineta thalassina*)
Broad-tailed hummingbird (*Selasphorus platycercus*)
Black-chinned hummingbird (*Archilocus alexandri*)
Say's phoebe (*Sayornis saya*)
Black phoebe (*Sayornis nigricans*)
Ash-throated flycatcher (*Myiarchus cinerascens*)
Loggerhead shrike (*Lanius ludovicianus*)
Bewick's wren (*Thryomanes bewickii*)
Western meadowlark (*Sturnella neglecta*)
Northern mockingbird (*Mimus polyglottos*)
Bell's vireo (*Vireo bellii*)
Common yellowthroat (*Geothlypis trichas*)
Yellow-breasted chat (*Icteria virens*)
Red-winged blackbird (*Agelaius phoeniceus*)
Great-tailed grackle (*Quiscalus mexicanus*)
Brown-headed cowbird (*Molothrus ater*)
Willow flycatcher (*Empidonax traillii*)
Western kingbird (*Tyrannus verticalis*)
American robin (*Turdus migratorius*)
European starling (*Sturnus vulgaris*)
Yellow warbler (*Dendroica petechia*)
Virginia rail (*Rallus limicola*)
Ladder-backed woodpecker (*Picoides scalaris*)
Phainopepla (*Phainlopepla nitens*)
Lazuli bunting (*Passerina amoena*)
Bullock's oriole (*Icterus bullockii*)
Summer tanager (*Piranga rubra*)
Song sparrow (*Melospiza melodia*)
House sparrow (*Passer domesticus*)
Chipping sparrow (*Spizella passerine*)
Greater road-runner (*Geococcyx californianus*)
American goldfinch (*Carduelis tristis*)
House finch (*Carpodacus mexicanus*)
Killdeer (*Charadrius vociferous*)
Marsh wren (*Cistothorus palustris*)

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